TC-K35

US Model
Canadian Model
AEP Model
UK Model
E Model

Photo: US model

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

STEREO CASSETTE DECK

SPECIFICATIONS

GENERAL

Power Requirements: US, Canadian model:
120 V ac, 60 Hz
AEP model:
220 V ac ~, 50/60 Hz
(or 240 V ac by internal rewiring)
UK model:
240 V ac ~, 50/60 Hz
(or 220 V ac by internal rewiring)
E model:
110, 120, 220 or 240 V ac ~, 50/60 Hz

Power Consumption: 10 W (US, Canadian model)
12 W (AEP, UK, E model)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY.

Dimensions: US, AEP, UK, E model:
approx. 430 (w) x 130 (h) x 290 (d) mm
17 (w) x 5 1/8 (h) x 11 1/2 (d) inches
Canadian model:
approx. 460 (w) x 130 (h) x 290 (d) mm
18 1/8 (w) x 5 1/8 (h) x 11 1/2 (d) inches
including projecting parts and controls

— Continued on page 2 —

Tape Transport Mechanism Type	TCM-91V2	
	Specification	Test Equipment
Forward Torque	28 – 55 g·cm (0.39 – 0.76 oz·inch)	Sony torque meter CQ-102
Fast Forward Torque Rewind Torque	60 – 120 g·cm (0.84 – 1.66 oz·inch)	Sony torque meter CQ-201
Back Tension Torque	2.0 – 4.5 g·cm (0.03 – 0.06 oz·inch)	Sony torque meter CQ-102
Pinch Roller Pressure	310 – 390 g (11 – 13 oz)	spring scale or tension gauge

SONY®

SERVICE MANUAL

TC-K35

352

US Model
Canadian Model
AEP Model
UK Model
E Model

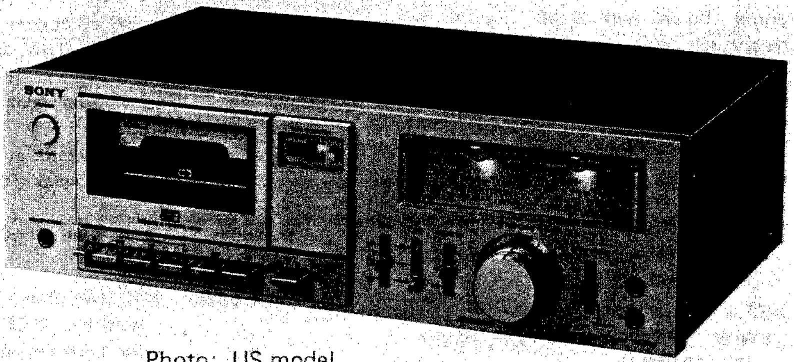


Photo: US model

'Dolby' and the double D symbol are the trade marks of Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

STEREO CASSETTE DECK

SPECIFICATIONS

GENERAL

Power Requirements:
US, Canadian model:
120 V ac, 60 Hz
AEP model:
220 V ac ~, 50/60 Hz
(or 240 V ac by internal rewiring)
UK model:
240 V ac ~, 50/60 Hz
(or 220 V ac by internal rewiring)
E model:
110, 120, 220 or 240 V ac ~, 50/60 Hz

Power Consumption:
10 W (US, Canadian model)
12 W (AEP, UK, E model)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY.

Dimensions:
US, AEP, UK, E model:
approx. 430 (w) x 130 (h) x 290 (d) mm
17 (w) x 5 1/8 (h) x 11 1/2 (d) inches
Canadian model:
approx. 460 (w) x 130 (h) x 290 (d) mm
18 1/8 (w) x 5 1/8 (h) x 11 1/2 (d) inches
including projecting parts and controls

– Continued on page 2 –

Tape Transport Mechanism Type	TCM-91V2	
	Specification	Test Equipment
Forward Torque	28 – 55 g·cm (0.39 – 0.76 oz·inch)	Sony torque meter CQ-102
Fast Forward Torque Rewind Torque	60 – 120 g·cm (0.84 – 1.66 oz·inch)	Sony torque meter CQ-201
Back Tension Torque	2.0 – 4.5 g·cm (0.03 – 0.06 oz·inch)	Sony torque meter CQ-102
Pinch Roller Pressure	310 – 390 g (11 – 13 oz)	spring scale or tension gauge

SONY®

SERVICE MANUAL

352

Weight: US, AEP, UK, E model:
approx. 5.8 kg, 12 lb 13 oz
Canadian model:
approx. 6.6 kg, 14 lb 9 oz

TAPE RECORDER SECTION

Recording System: 4-track 2-channel stereo

Fast-forward and Rewind Time: Approx. 90 sec. (with C-60)

Frequency Response: DOLBY NR OFF
US, Canadian model:
- With TYPE III cassette (Sony Fe-Cr)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
- With TYPE II cassette (Sony EHF)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
- With TYPE I cassette (Sony HFX)
  20 – 15,000 Hz

AEP, UK, E model:
- With TYPE III cassette (Sony Fe-Cr)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
  30 – 15,000 Hz (DIN)
- With TYPE II cassette (Sony CD-α)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
  30 – 15,000 Hz (DIN)
- With TYPE I cassette (Sony BHF)
  20 – 15,000 Hz
  30 – 13,000 Hz (DIN)

Wow and Flutter: 0.05 % WRMS (US, Canadian model)
0.05 % WRMS (NAB) }
±0.14 % (DIN) } (AEP, UK, E model)

S/N Ratio: DOLBY NR OFF
US, Canadian model:
- With TYPE III cassette (Sony Fe-Cr)
  58 dB at peak level
- With TYPE II cassette (Sony EHF)
  56 dB at peak level

AEP, UK, E model:
- With TYPE III cassette (Sony Fe-Cr)
  58 dB at peak level (NAB)
  56 dB (DIN, 1975 rev.)
- With TYPE II cassette (Sony CD-α)
  56 dB at peak level (NAB)

DOLBY NR ON
Improved 5 dB at 1 kHz,
10 dB above 5 kHz

Total Harmonic Distortion: 1.3 % (with Sony Fe-Cr cassette)

Bias Frequency: 105 kHz

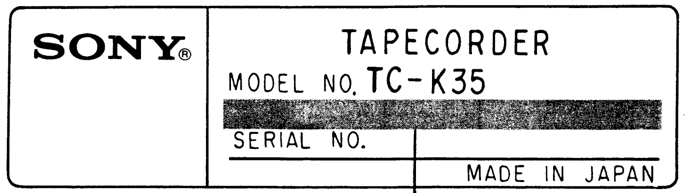
Inputs: MIC (two phone jacks)
sensitivity 0.25 mV (–70 dB)
for a low-impedance microphone
LINE IN (two phono jacks)
sensitivity 77.5 mV (–20 dB)
input impedance 50 kΩ
REC/PB (connector) . . (AEP, UK, E model)
input impedance less than 10 kΩ

Outputs: LINE OUT (two phono jacks)
output level 0.435 V (–5 dB) at load impedance 50 kΩ
suitable load impedance more than 10 kΩ
Headphone output (binaural jack)
output level 39 mV (–26 dB) at load impedance 8 Ω
REC/PB (connector) . . (AEP, UK, E model)
output impedance less than 10kΩ

0 dB = 0.775 V

MODEL IDENTIFICATION

– Specification Label –



SONY

TAPECORDER

MODEL NO. TC-K35

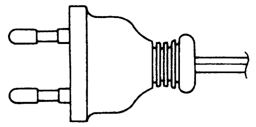
SERIAL NO.

MADE IN JAPAN

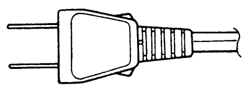
AC 120V	*60Hz*	*10W*	*US, Canadian model*
AC 220V~	*50/60Hz*	*12W*	*AEP model*
AC 240V~	*50/60Hz*	*12W*	*UK model*
AC 110, 120, 220, 240V~	*50/60Hz*	*12W*	*E model*

– Power Cord –

E model: euro-plug 1-551-530-00

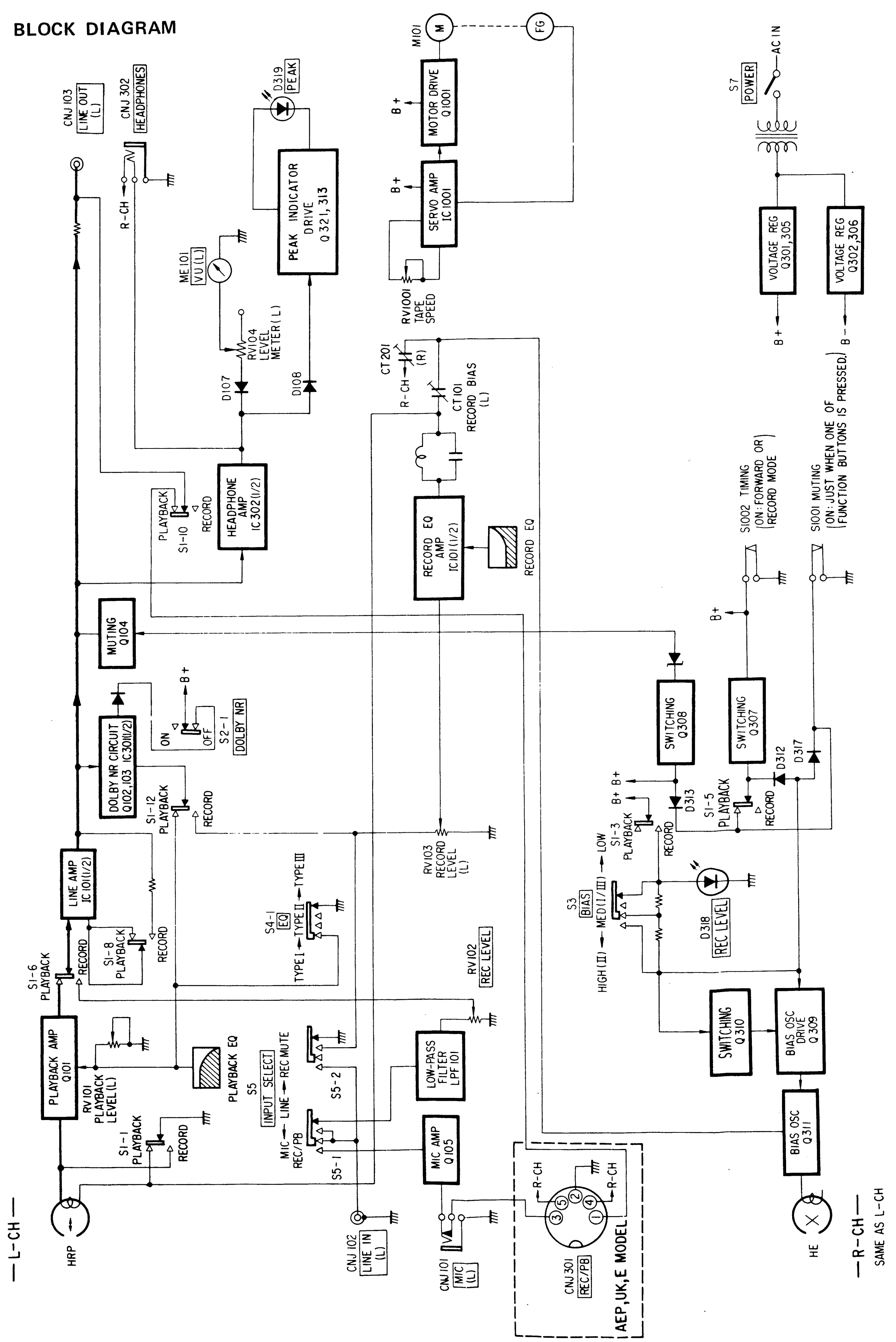


E model: parallel-blade plug 1-551-473-31



SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

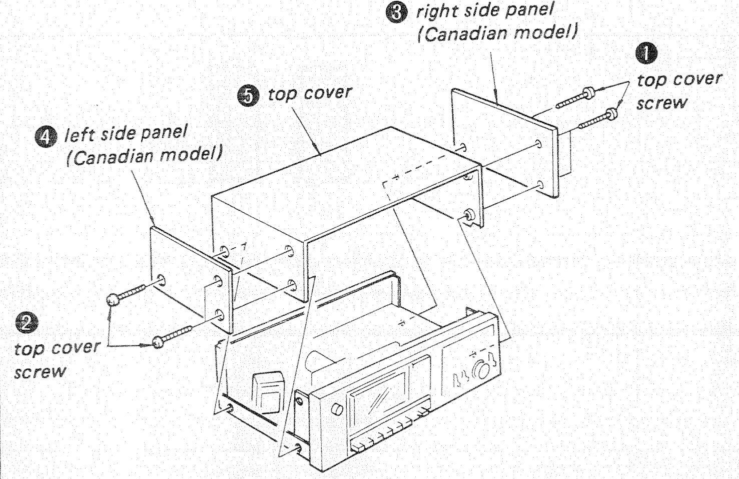


— L-CH —
HRP
PLAYBACK AMP Q101
RV101 PLAYBACK LEVEL (L)
S1-1 PLAYBACK RECORD
S1-6 PLAYBACK RECORD
LINE AMP IC101(1/2)
S1-8 PLAYBACK RECORD
S1-12 PLAYBACK RECORD
DOLBY NR CIRCUIT Q102, 103 IC301(1/2)
S2-1 DOLBY NR ON OFF
MUTING Q104
S1-10 PLAYBACK RECORD
HEADPHONE AMP IC302(1/2)
CNJ 103 LINE OUT (L)
CNJ 302 HEADPHONES
R-CH
ME101 VU (L)
RV104 LEVEL METER (L)
D107
D108
D319 PEAK
PEAK INDICATOR DRIVE Q321, 313
PLAYBACK EQ
S5 INPUT SELECT MIC — LINE — REC MUTE REC/PB
S5-1
S5-2
S4-1 EQ TYPE I — TYPE II — TYPE III
CNJ 102 LINE IN (L)
CNJ 101 MIC (L)
MIC AMP Q105
LOW-PASS FILTER LPF101
RV102 REC LEVEL
RV103 RECORD LEVEL (L)
RECORD EQ AMP IC101(1/2)
RECORD EQ
CT101 RECORD BIAS (L)
CT201 R-CH (R)
CNJ 301 REC/PB
AEP, UK, E MODEL
M101 M
FG
MOTOR DRIVE Q1001
SERVO AMP IC1001
RV1001 TAPE SPEED
B+
S7 POWER
AC IN
VOLTAGE REG Q301, 305
VOLTAGE REG Q302, 306
B−
S1002 TIMING (ON: FORWARD OR RECORD MODE)
S1001 MUTING (ON: JUST WHEN ONE OF FUNCTION BUTTONS IS PRESSED)
SWITCHING Q308
SWITCHING Q307
D313
D312
D317
S1-5 PLAYBACK RECORD
S1-3 PLAYBACK RECORD
S3 BIAS HIGH (II) — MED (I/III) — LOW
D318 REC LEVEL
SWITCHING Q310
BIAS OSC DRIVE Q309
BIAS OSC Q311
HE
— R-CH —
SAME AS L-CH

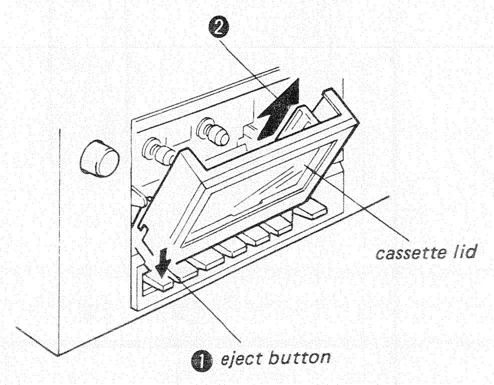
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

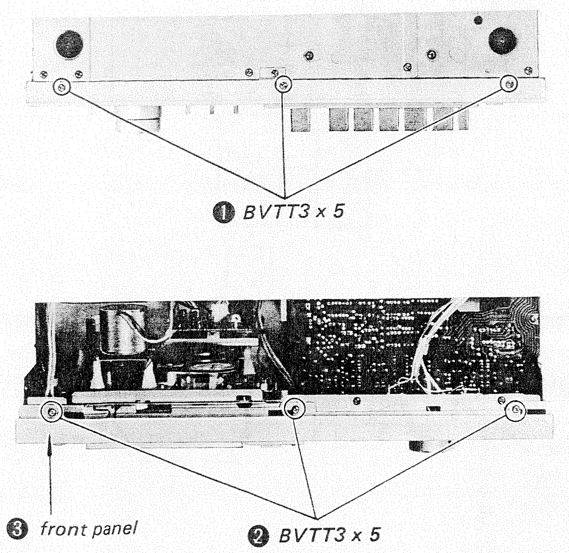
TOP COVER REMOVAL


❸ right side panel
(Canadian model)
❶ top cover screw
❺ top cover
❹ left side panel
(Canadian model)
❷ top cover screw

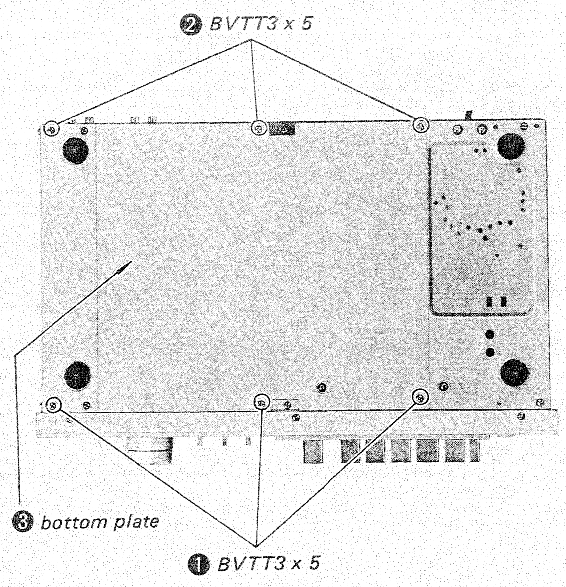
CASSETTE LID REMOVAL


❷
cassette lid
❶ eject button

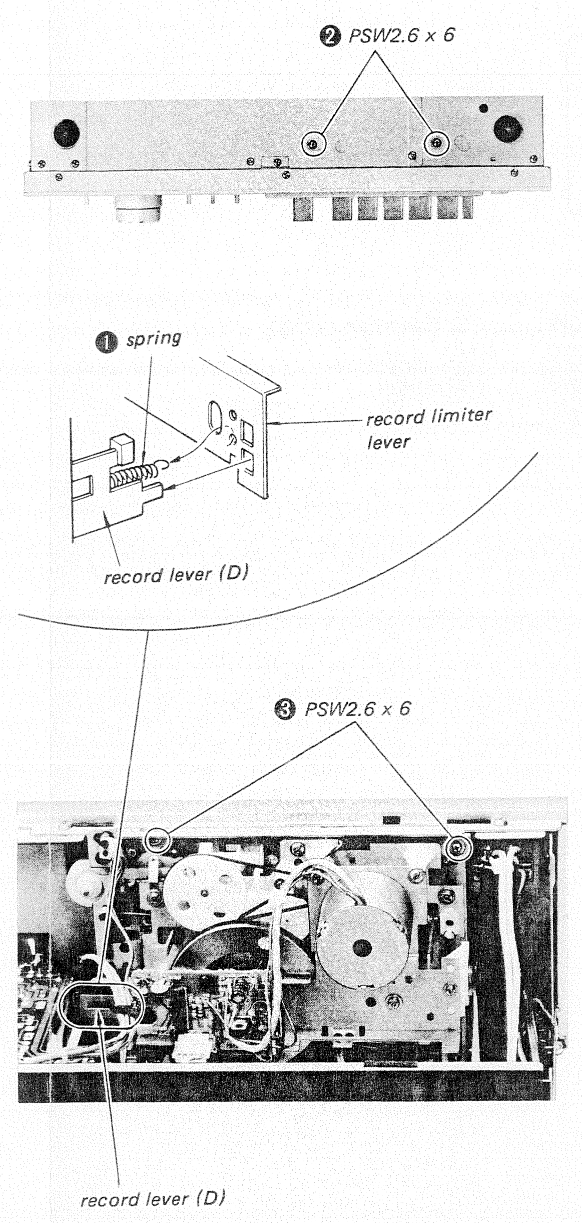
FRONT PANEL REMOVAL


❶ BVTT3 x 5
❸ front panel
❷ BVTT3 x 5

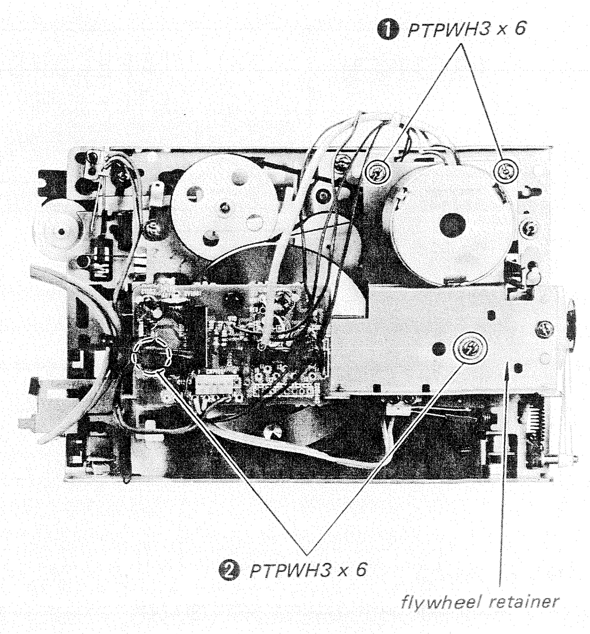
BOTTOM PLATE REMOVAL


❷ BVTT3 x 5
❸ bottom plate
❶ BVTT3 x 5

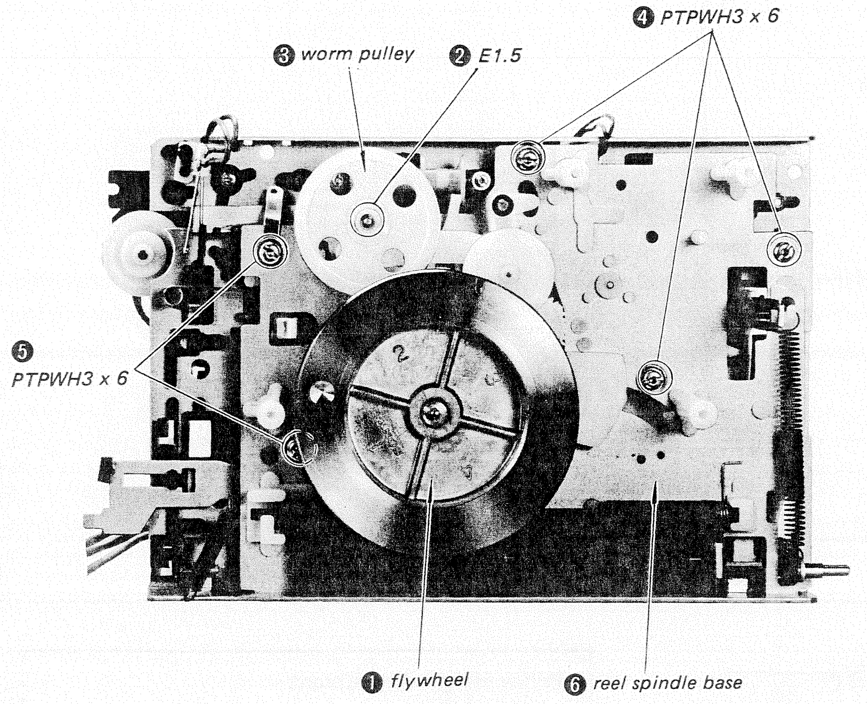
MECHANICAL BLOCK REMOVAL


❷ PSW2.6 x 6
❶ spring
record limiter lever
record lever (D)
❸ PSW2.6 x 6
record lever (D)

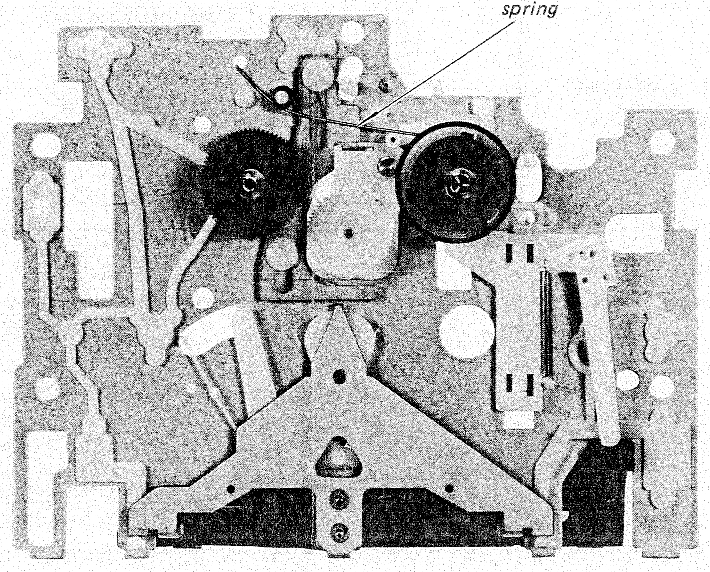
FLYWHEEL RETAINER REMOVAL


❶ PTPWH3 x 6
❷ PTPWH3 x 6
flywheel retainer

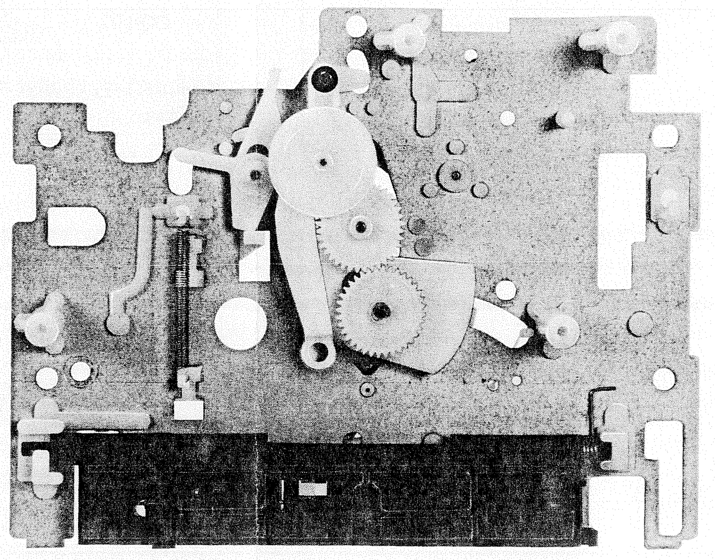
REEL SPINDLE BASE REMOVAL


❹ PTPWH3 x 6
❸ worm pulley
❷ E1.5
❺ PTPWH3 x 6
❶ flywheel
❻ reel spindle base

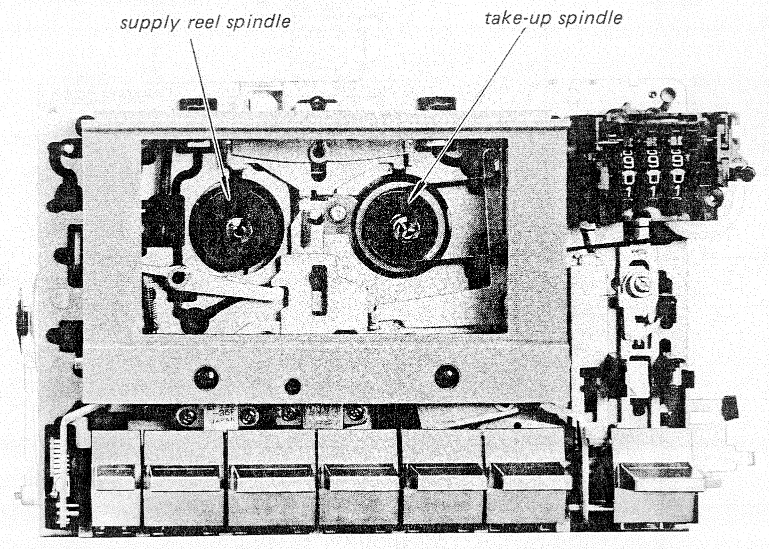
Reel spindle base front view



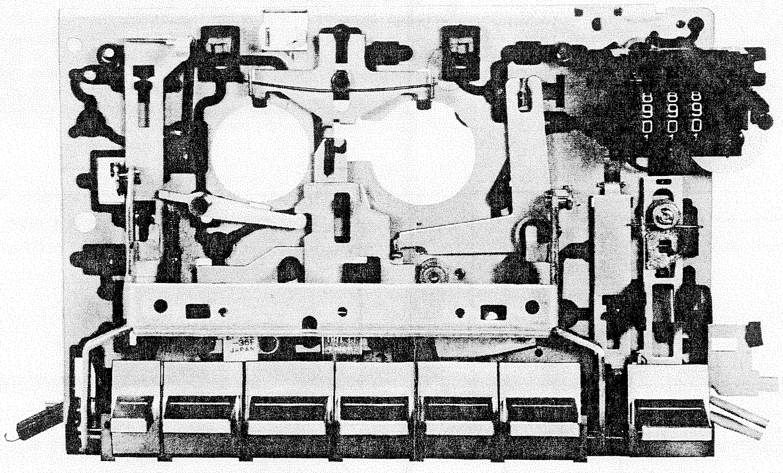
Reel spindle base rear view



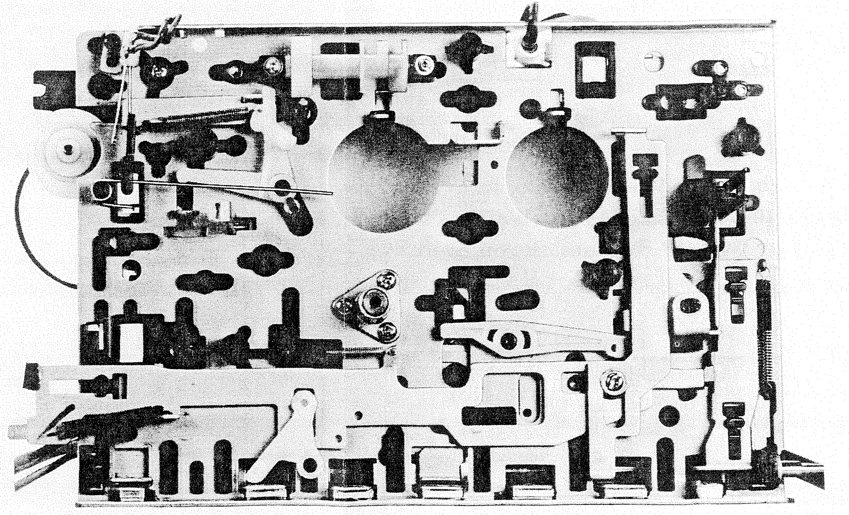
Reel spindle base is not removed.
(front view)


supply reel spindle
take-up spindle

Reel spindle base is removed.
(front view)



Reel spindle base is removed.
(rear view)



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

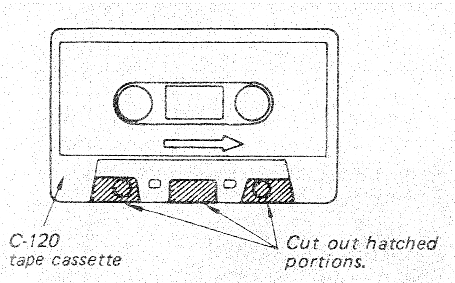
1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

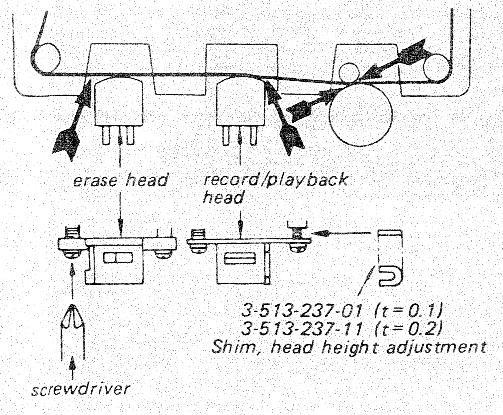
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Head Height Adjustment

1. Prepare an adjustment cassette as shown below.


C-120
tape cassette
Cut out hatched portions.

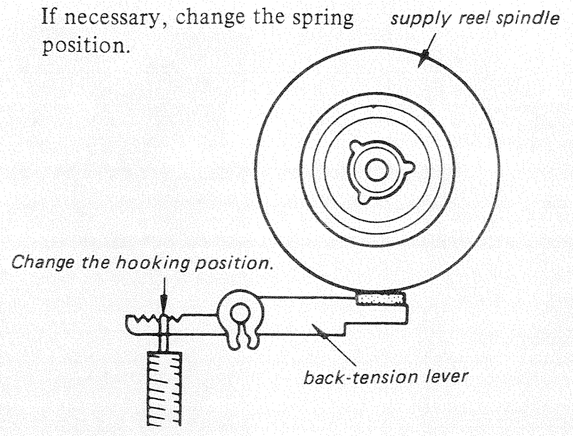
2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by arrows.

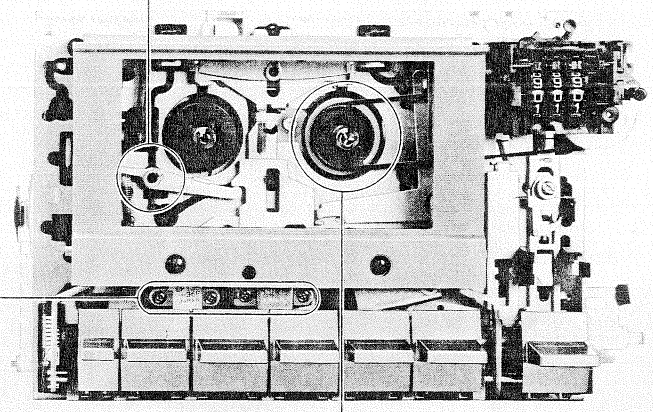

erase head
record/playback head
3-513-237-01 (t = 0.1)
3-513-237-11 (t = 0.2)
Shim, head height adjustment
screwdriver

Back Tension Torque Adjustment
– playback mode –

Torque meter	Meter reading
CQ-102	2.0 – 4.5g·cm (0.02 – 0.06 oz·inch)

If necessary, change the spring position.

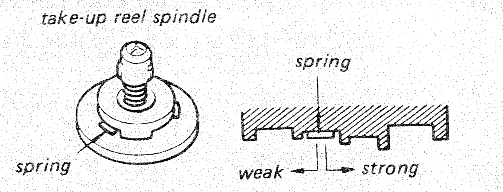

supply reel spindle
Change the hooking position.
back-tension lever



Forward Torque Adjustment
– playback mode –

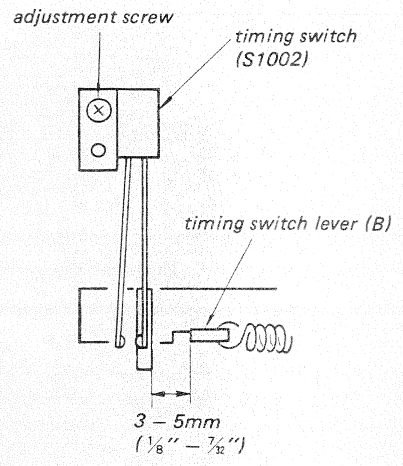
Torque meter	Meter reading
CQ-102	28 – 55g·cm (0.39 – 0.76 oz·inch)

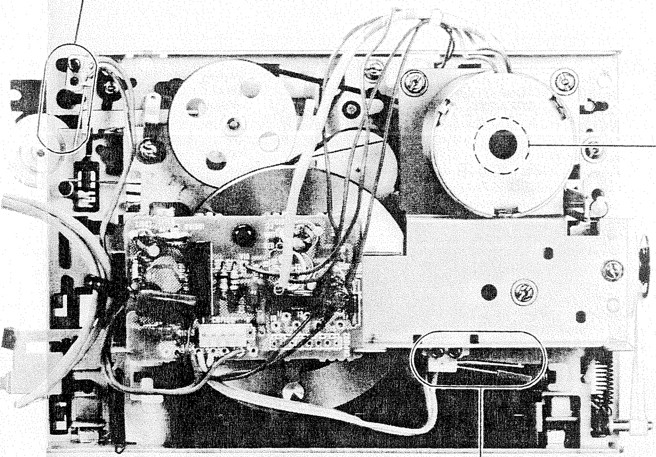
If necessary, change the spring position.


take-up reel spindle
spring
spring
weak
strong

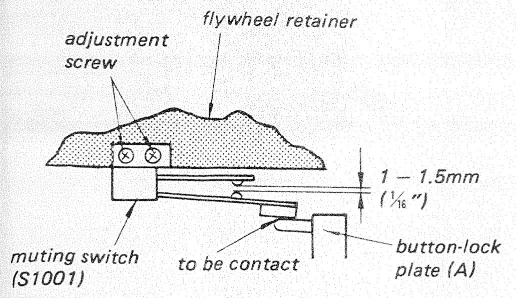
(Approx. 8g·cm per one slide.)

Timing Switch (S1002) Position Adjustment
– stop mode –

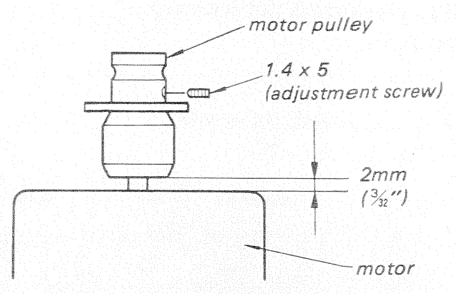

adjustment screw
timing switch
(S1002)
timing switch lever (B)
3 – 5mm
(⅛" – 7/32")



Muting Switch (S1001) Position Adjustment
– stop mode –


flywheel retainer
adjustment screw
1 – 1.5mm
(1/16")
muting switch
(S1001)
to be contact
button-lock plate (A)

Pulley Height Adjustment
– stop mode –


motor pulley
1.4 x 5
(adjustment screw)
2mm
(3/32")
motor

3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the BIAS and EQ switches according to the tape as follows.

Tape	BIAS switch	EQ switch
CS-10	MED (I/III)	TYPE I
CS-25	HIGH (II)	TYPE II
CS-30	MED (I/III)	TYPE III

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch:	OFF
EQ switch:	TYPE I
BIAS switch:	MED (I/III)
INPUT SELECT switch:	LINE

- Standard Record:

  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Standard Input Level

	MIC	LINE IN	REC/PB (AEP, UK and E model)
source impedance	300Ω	10kΩ	100kΩ
input level	0.77mV (−60dB)	0.25V (−10dB)	17mV (−33dB)

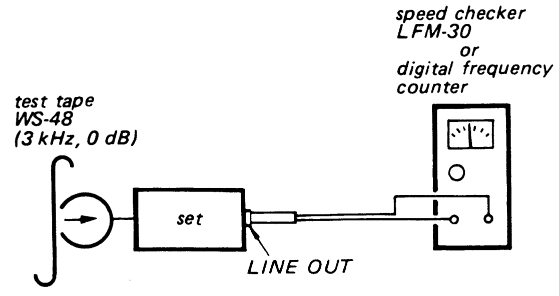
Standard Output Level

	LINE OUT	HEAD-PHONES	REC/PB (AEP, UK and E model)
load impedance	47kΩ	8Ω	50kΩ
output level	0.44V (−5dB)	39mV (−26dB)	0.44V (−5dB)

Tape Speed Adjustment

Procedure:

Mode: playback



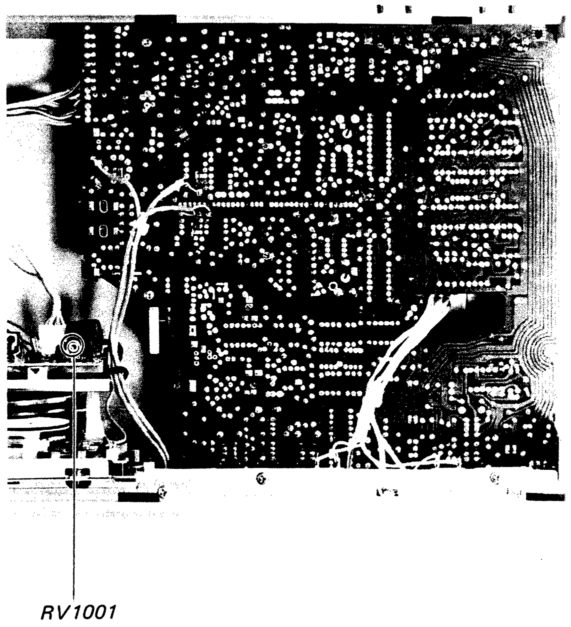
Specification:

Speed checker	Digital frequency counter
−0.6 – +0.6%	2980 – 3020Hz

Frequency difference between the beginning and the end of the tape should be within 0.6% (20Hz).

Adjustment Location:

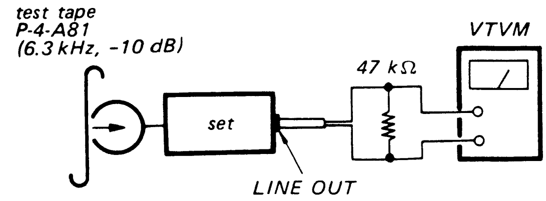
– servo amp board –



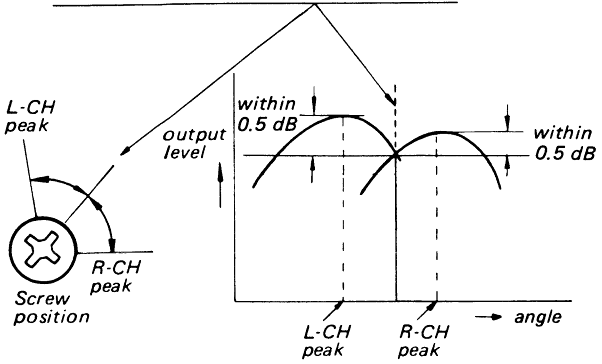
Record/playback Head Azimuth Adjustment

Procedure:

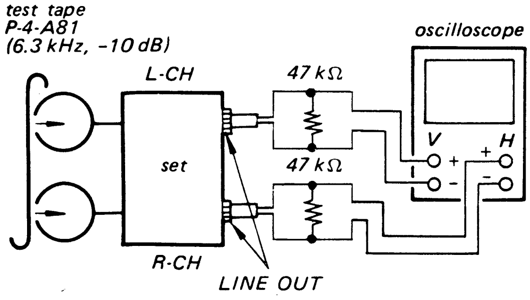
1. Mode: playback

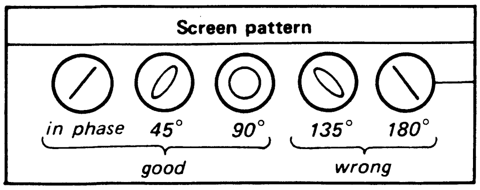

test tape
P-4-A81
(6.3 kHz, -10 dB)
VTVM
47 kΩ
set
LINE OUT

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw where both of output levels match together within 0.5 dB.

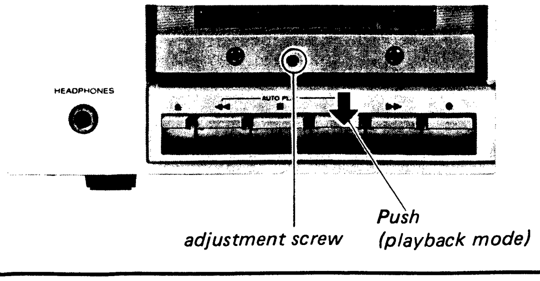

L-CH
peak
output
level
within
0.5 dB
within
0.5 dB
R-CH
peak
Screw
position
L-CH
peak
R-CH
peak
angle

3. Phase Check
   Mode: playback


test tape
P-4-A81
(6.3 kHz, -10 dB)
oscilloscope
L-CH
47 kΩ
47 kΩ
set
V
H
+
+
-
-
R-CH
LINE OUT


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

Adjustment Location:


HEADPHONES
AUTO PL
Push
(playback mode)
adjustment screw

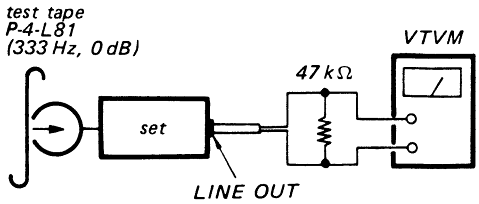
Playback Level Adjustment

Setting:

TAPE SELECT switch: TYPE I

Procedure:

Mode: playback


test tape
P-4-L81
(333 Hz, 0 dB)
VTVM
47 kΩ
set
LINE OUT

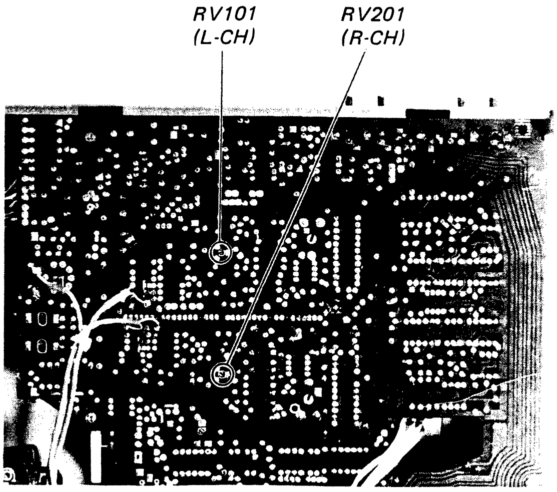
Specification:

LINE OUT level: 0.52 – 0.59V
(–3.5 to –2.5dB)
Level difference between channels:
less than 0.5dB
Level difference from TYPE I:
between –0.5dB and +0.5dB
(TAPE SELECT switch: TYPE III)

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

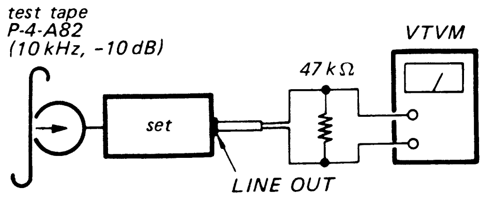
– audio amp board –


RV101
(L-CH)
RV201
(R-CH)

Playback Equalizer Adjustment

Procedure:

Mode: playback


test tape
P-4-A82
(10kHz, -10dB)
VTVM
47kΩ
set
LINE OUT

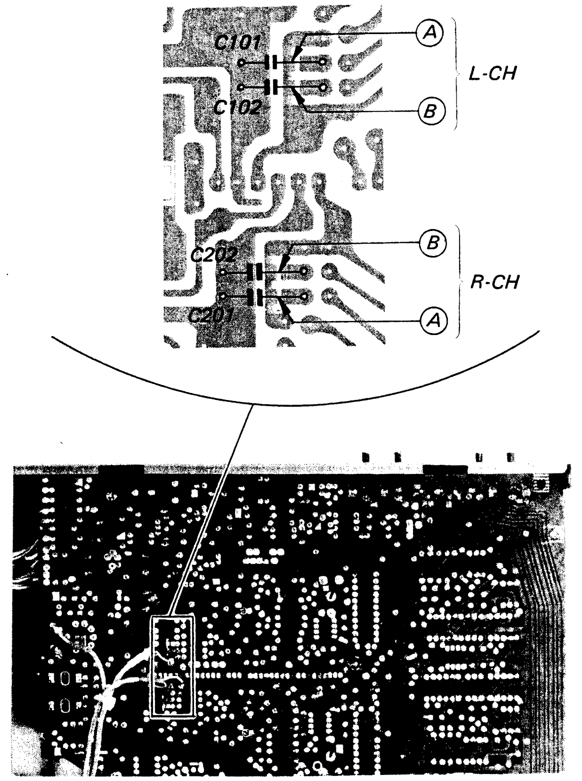
Specification:

EQ switch	LINE OUT level
TYPE I	0.13 – 0.24V (−15.5 to −10.5dB)
TYPE II or TYPE III	0.069 – 0.14V (−21 to −15dB)

Adjustment Location:

– audio amp board –

Bridge patterns	High frequency level
(open)	down
Ⓐ	↕
Ⓐ and Ⓑ	up


C101
C102
Ⓐ
Ⓑ
L-CH
C202
C201
Ⓑ
Ⓐ
R-CH

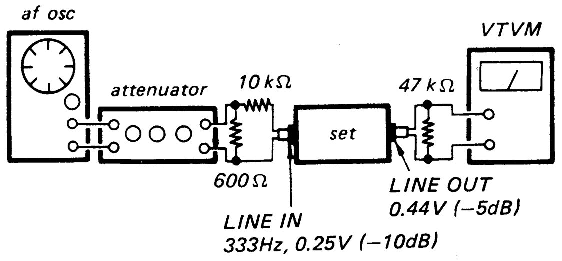
Level Meter Calibration

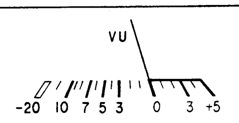
Setting:

REC LEVEL control: standard record (See page 11.)

Procedure:

1. Mode: record

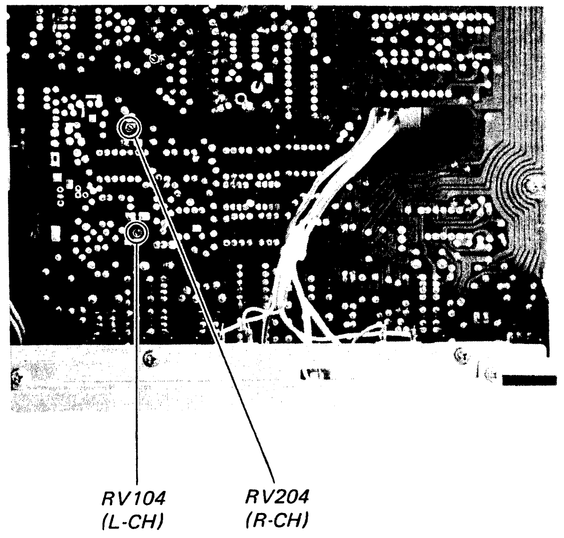

af osc
attenuator
10kΩ
47kΩ
VTVM
set
600Ω
LINE OUT
0.44V (−5dB)
LINE IN
333Hz, 0.25V (−10dB)

Adjust	Level meter reading : 0VU
RV104 (L-CH) RV204 (R-CH)	 VU -20 10 7 5 3 0 3 +5

Confirm that the pointer of the level meter is working smoothly.

Adjustment Location:

– audio amp board –


RV104
(L-CH)
RV204
(R-CH)

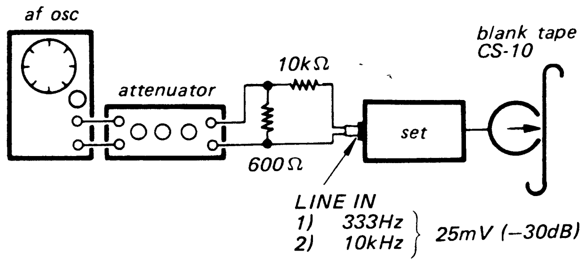
Record Bias Adjustment

Setting:

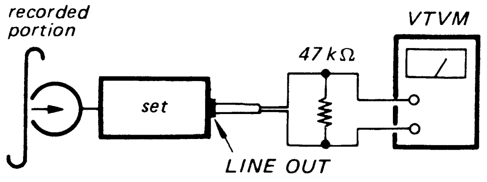
REC LEVEL control: standard record (See page 11.)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-10
LINE IN
1) 333Hz
2) 10kHz
25mV (−30dB)

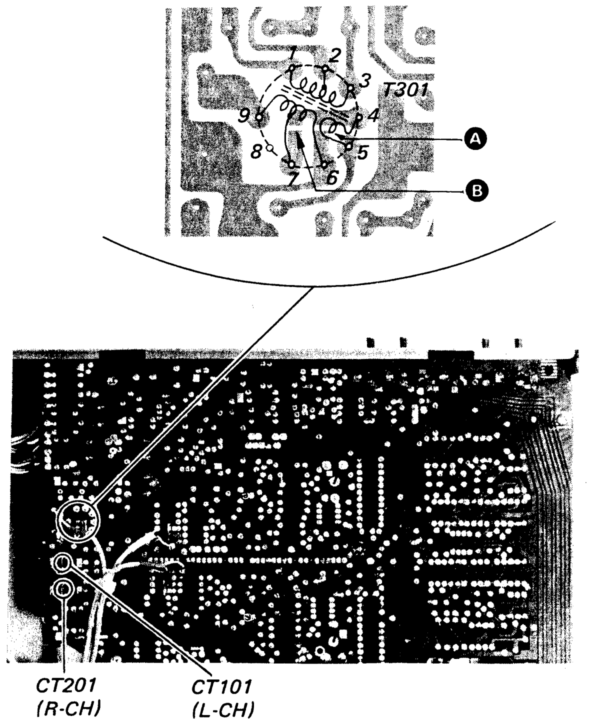
2. Mode: playback


recorded portion
VTVM
47kΩ
set
LINE OUT

Adjust CT101 (L-CH) and CT201 (R-CH) to make 1kHz and 10kHz signal output levels equal.

If necessary, unsolder portion 🅐 and solder portion 🅑.

Adjustment Location: *– audio amp board –*


T301
1
2
3
4
5
6
7
8
9
🅐
🅑
CT201
(R-CH)
CT101
(L-CH)

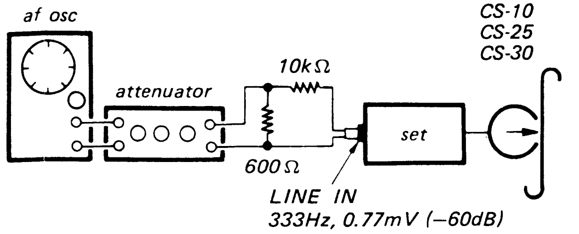
Record Level Adjustment

Setting:

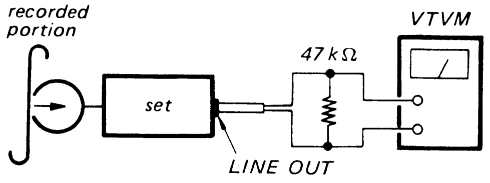
REC LEVEL control: standard record (See page 11.)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-10
CS-25
CS-30
LINE IN
333Hz, 0.77mV (−60dB)

2. Mode: playback

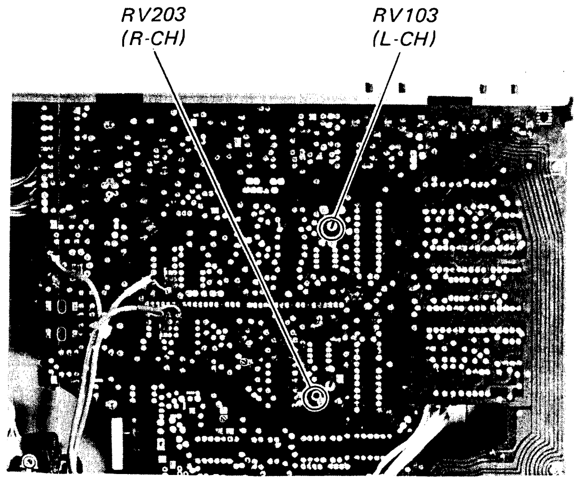

recorded portion
VTVM
47kΩ
set
LINE OUT

Specification:

tape	LINE OUT level
CS-10	0.41 – 0.46V (−5.5 to −4.5dB)
CS-25 CS-30	0.37 – 0.52V (−6.5 to −3.5dB)

Adjustment Location:

– audio amp board –


RV203
(R-CH)
RV103
(L-CH)

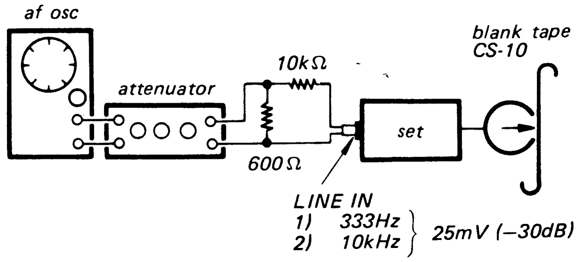
Record Bias Adjustment

Setting:

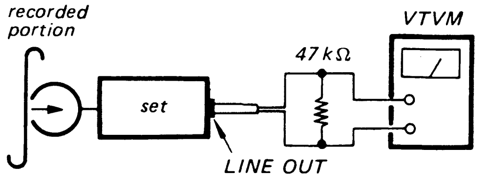
REC LEVEL control: standard record
(See page 11.)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-10
LINE IN
1) 333Hz
2) 10kHz
25mV (−30dB)

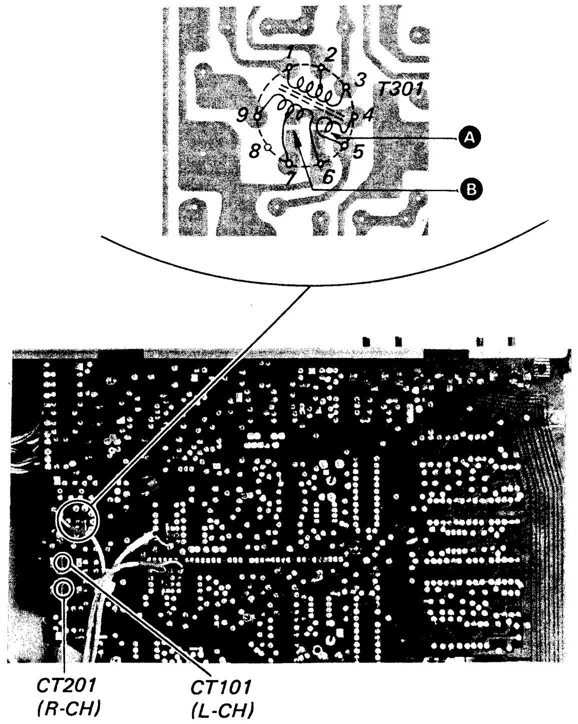
2. Mode: playback


recorded portion
set
47kΩ
VTVM
LINE OUT

Adjust CT101 (L-CH) and CT201 (R-CH) to make 1kHz and 10kHz signal output levels equal.

If necessary, unsolder portion Ⓐ and solder portion Ⓑ.

Adjustment Location: *– audio amp board –*


1
2
3
4
5
6
7
8
9
T301
Ⓐ
Ⓑ
CT201
(R-CH)
CT101
(L-CH)

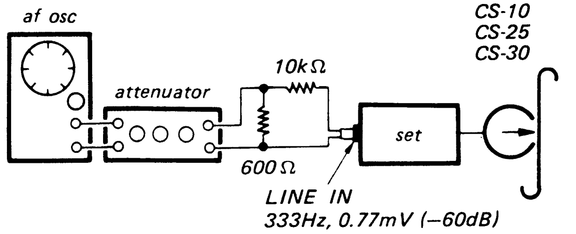
Record Level Adjustment

Setting:

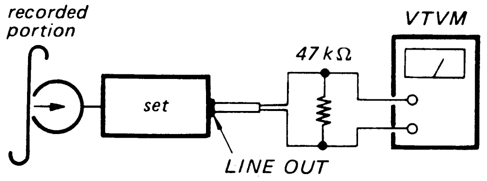
REC LEVEL control: standard record
(See page 11.)

Procedure:

1. Mode: record


af osc
attenuator
10kΩ
600Ω
set
blank tape
CS-10
CS-25
CS-30
LINE IN
333Hz, 0.77mV (−60dB)

2. Mode: playback

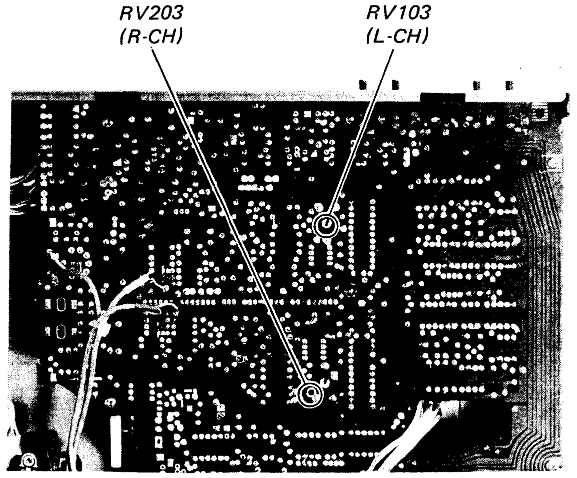

recorded portion
set
47kΩ
VTVM
LINE OUT

Specification:

tape	LINE OUT level
CS-10	0.41 – 0.46V (−5.5 to −4.5dB)
CS-25 CS-30	0.37 – 0.52V (−6.5 to −3.5dB)

Adjustment Location:

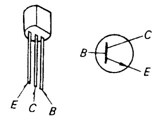
– audio amp board –


RV203
(R-CH)
RV103
(L-CH)

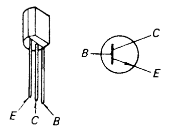
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

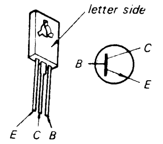
Q101, 201
Q102, 202 : 2SC1345
Q105, 205
Q104, 204 : 2SC2001



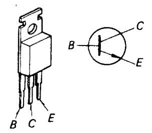
Q103, 203
Q305, 307 : 2SC1364
Q308, 310
Q312, 313



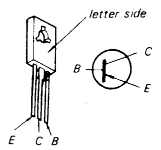
Q301 (US, Canadian model)
Q1001 : 2SD414


letter side
E C B
B
C
E

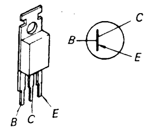
Q301 (AEP, UK, E model): 2SC1061



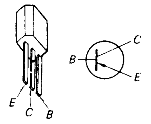
Q302 (US, Canadian model): 2SB548


letter side
E C B
B
C
E

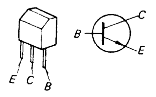
Q302 (AEP, UK, E model): 2SA671

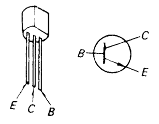


Q306, 309: 2SA1027R (2SA1026)

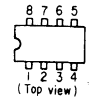


Q311: 2SC1475 (2SC1213A)

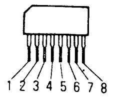




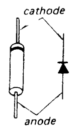
IC101, 201 : NJM4560D
IC301 : μPC4556C
IC302 : μPC4557C


8 7 6 5
1 2 3 4
(Top view)

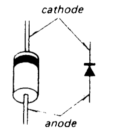
IC1001: CX069



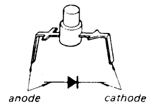
D101, 201
D103, 203
D108, 208 : 1S1555 (1T40)
D305, 311–313
D317
D102, 202
D107, 207 : 1T22AM (1T22)
D301–304
D307, 308 : 10E2
D315
D314 : RD3.0E (RD3.0E-B)


cathode
anode

D309, 310, 316: HZ6B2L
(HZ6B1L)


cathode
anode

D318, 319: SEL103R

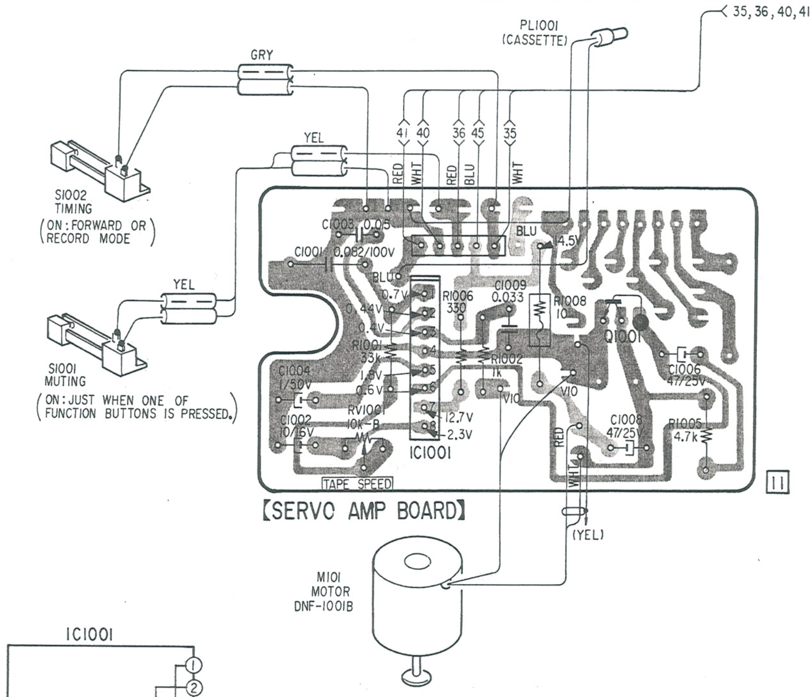

anode
cathode

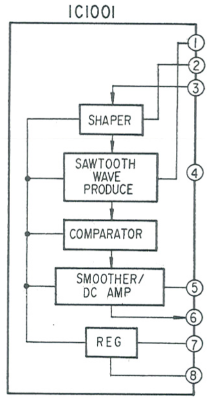
SECTION 4 DIAGRAMS

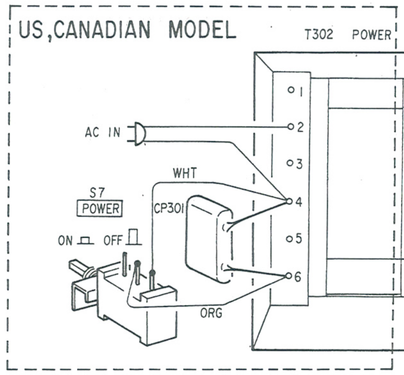
4-1. MOUNTING DIAGRAM

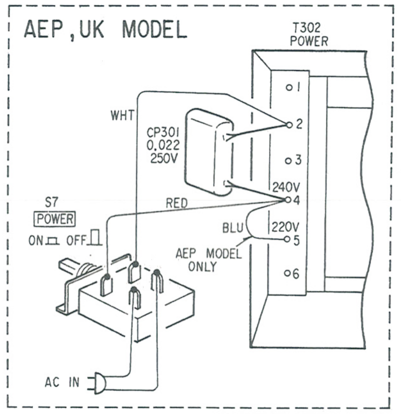
– Conductor Side –

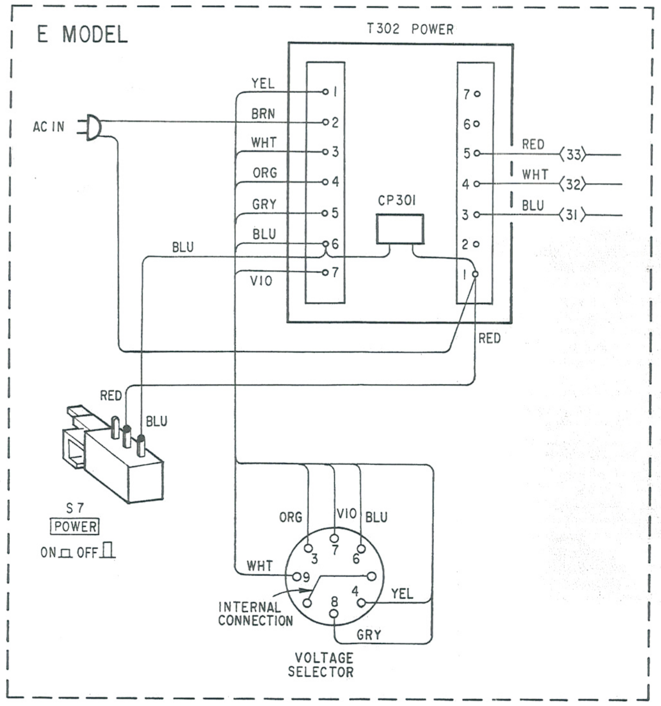
See page 15 for the semiconductor illustration.

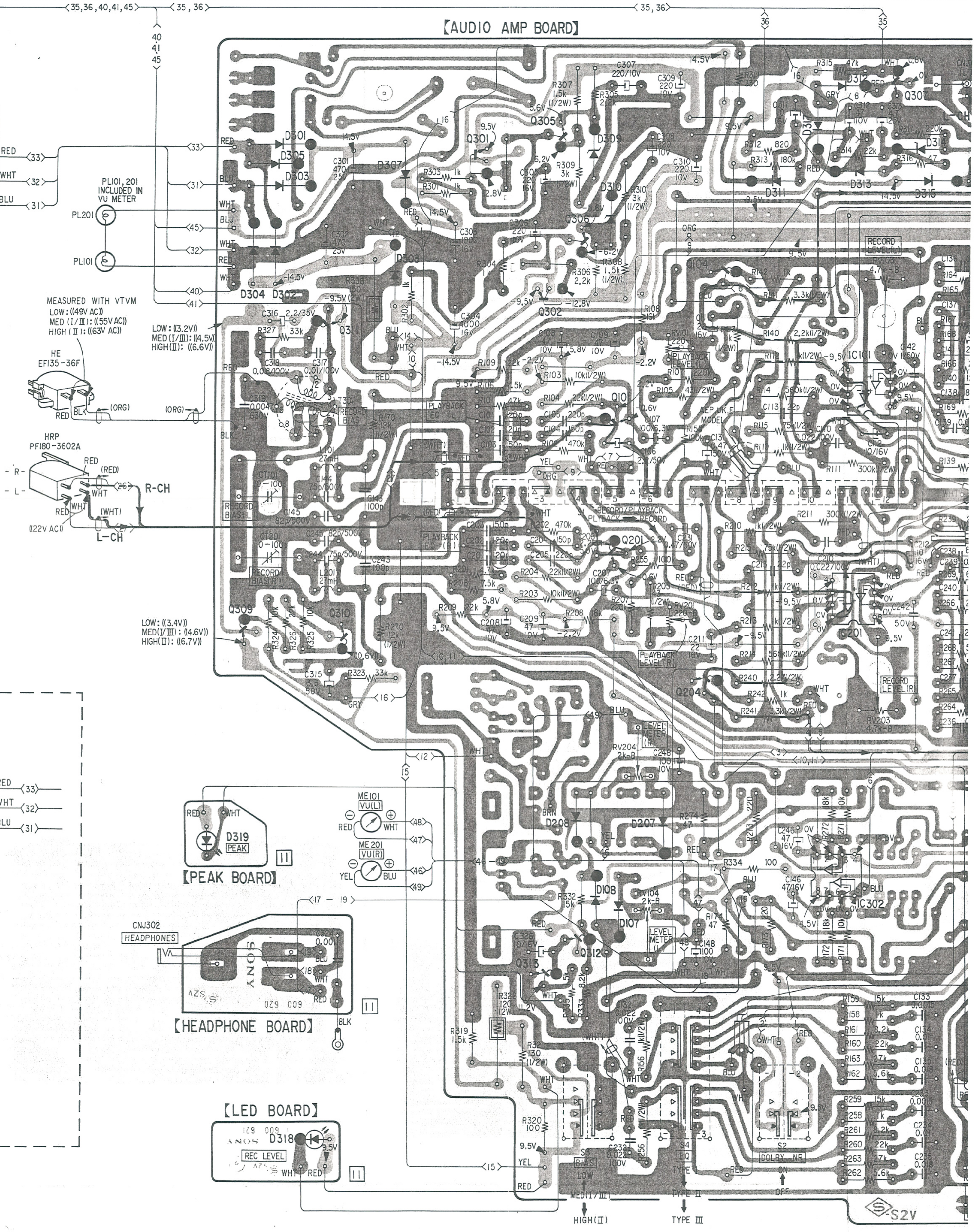

PL1001 (CASSETTE)
GRY
YEL
S1002 TIMING (ON: FORWARD OR RECORD MODE)
S1001 MUTING (ON: JUST WHEN ONE OF FUNCTION BUTTONS IS PRESSED.)
IC1001
TAPE SPEED
【SERVO AMP BOARD】
M101 MOTOR DNF-1001B
(YEL)


IC1001
SHAPER
SAWTOOTH WAVE PRODUCE
COMPARATOR
SMOOTHER/ DC AMP
REG


US, CANADIAN MODEL
T302 POWER
AC IN
S7 POWER
ON OFF
CP301
WHT
ORG
RED
WHT
BLU

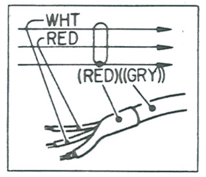

AEP, UK MODEL
T302 POWER
WHT
CP301 0.022 250V
S7 POWER
ON OFF
RED
BLU
240V
220V
AEP MODEL ONLY
AC IN


E MODEL
T302 POWER
AC IN
YEL
BRN
WHT
ORG
GRY
BLU
VIO
CP301
RED
WHT
BLU
S7 POWER
ON OFF
ORG
VIO
BLU
WHT
YEL
GRY
INTERNAL CONNECTION
VOLTAGE SELECTOR

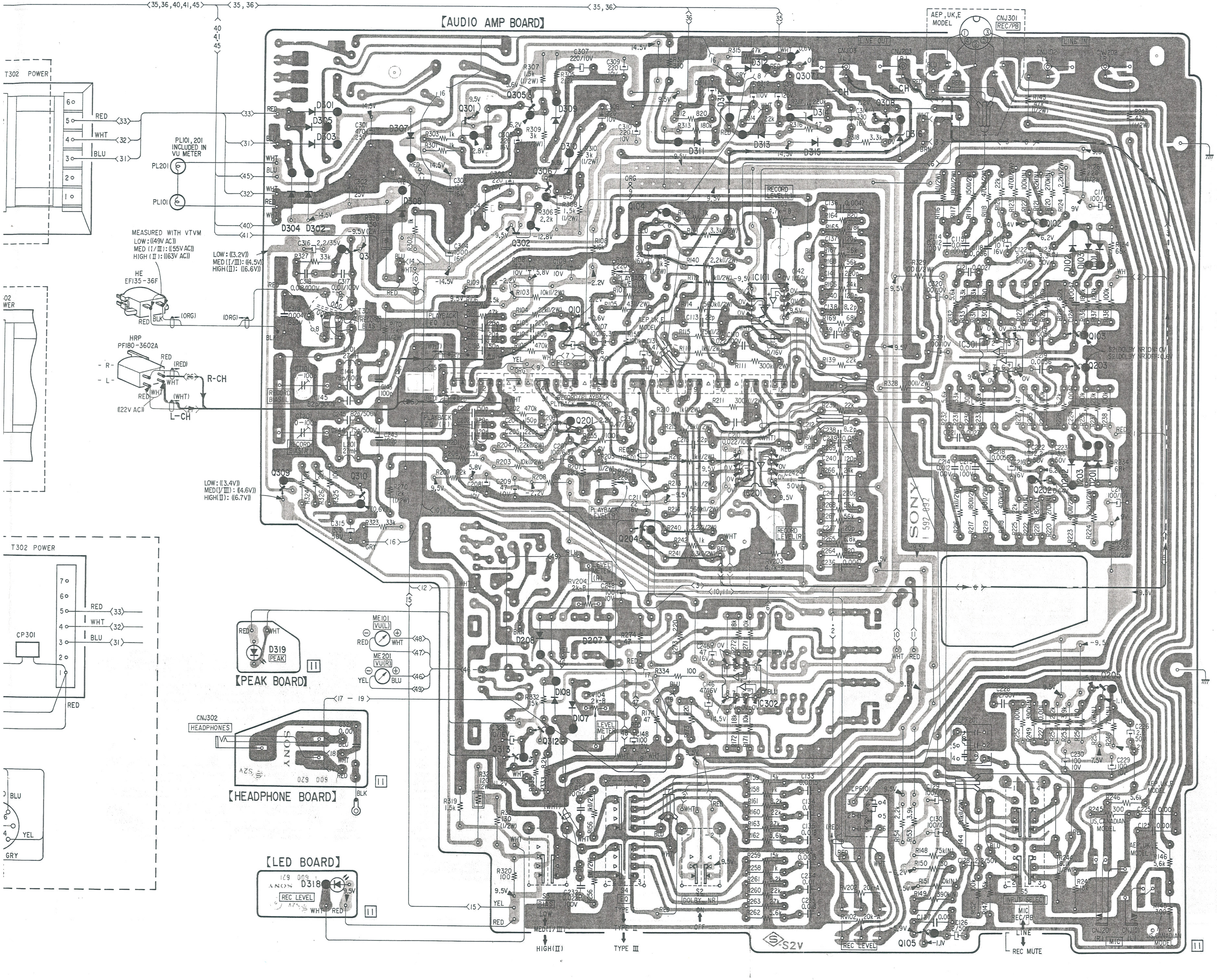

【AUDIO AMP BOARD】
PL101, 201 INCLUDED IN VU METER
PL201
PL101
MEASURED WITH VTVM
LOW: ((49V AC))
MED (I/III): ((55V AC))
HIGH (II): ((63V AC))
HE EF135-36F
HRP PF180-3602A
R-CH
L-CH
(22V AC)
LOW: ((3.2V))
MED (I/III): ((4.5V))
HIGH (II): ((6.6V))
LOW: ((3.4V))
MED (I/III): ((4.6V))
HIGH (II): ((6.7V))
【PEAK BOARD】
D319 PEAK
ME101 VU(L)
ME201 VU(R)
CNJ302 HEADPHONES
【HEADPHONE BOARD】
【LED BOARD】
D318
REC LEVEL
RECORD BIAS
PLAYBACK LEVEL
RECORD LEVEL
S2 DOLBY NR
ON OFF
MED (I/III)
HIGH (II)
TYPE II
TYPE III

Note:

- Color code of sleeving the end of the jacket.

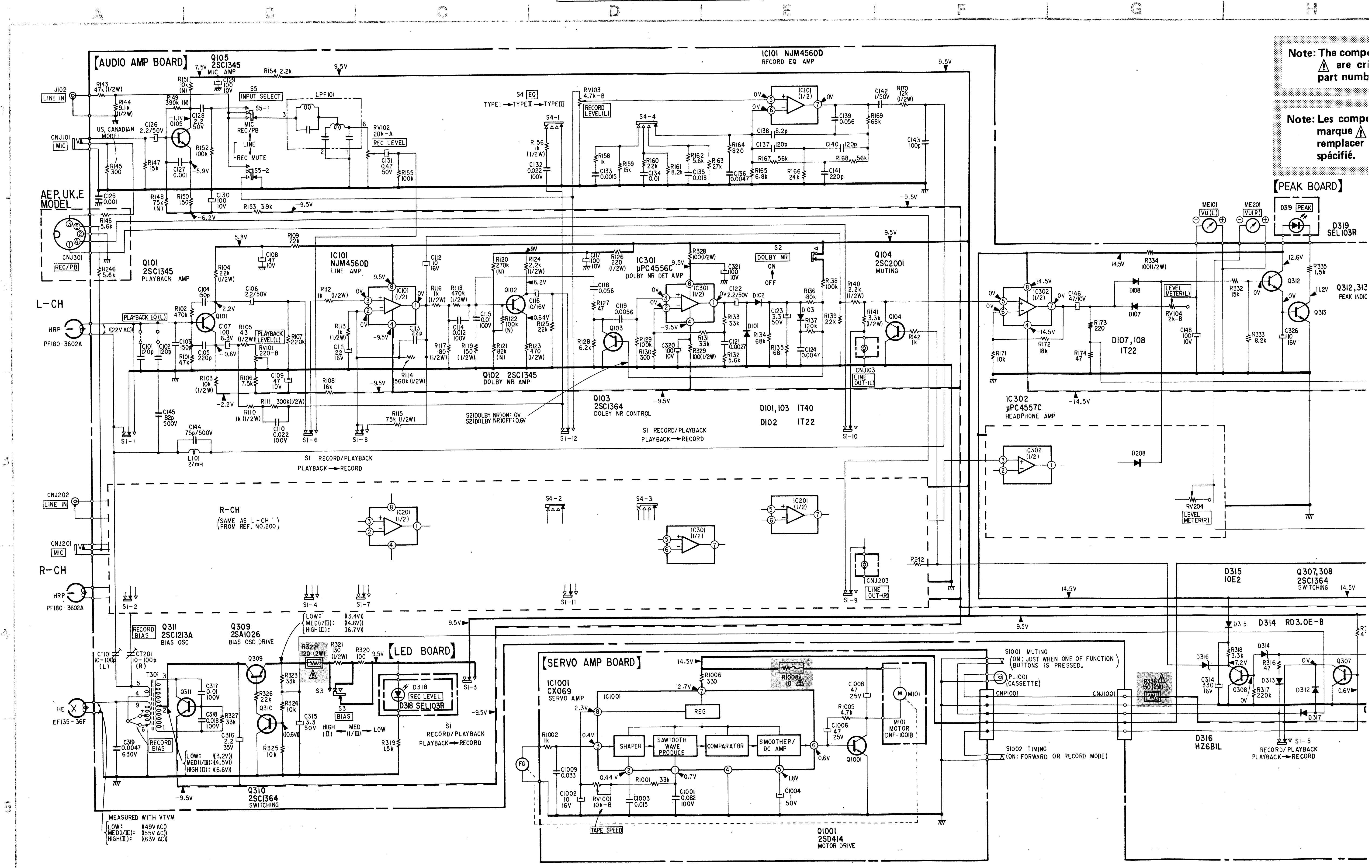

WHT
RED
(RED)(GRY)

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ▨ : B+ pattern.
- ▨ : B– pattern.
- Signal Path
  - —·—·→ : L-CH
  - —··—··→ : R-CH
  - ——→ : common


【AUDIO AMP BOARD】
【PEAK BOARD】
【HEADPHONE BOARD】
【LED BOARD】
T302 POWER
CP301
PL101, 201 INCLUDED IN VU METER
MEASURED WITH VTVM
LOW: ((49V AC))
MED (I/III): ((55V AC))
HIGH (II): ((63V AC))
HE EF135-36F
HRP PF180-3602A
R-CH
L-CH
LOW: ((3.2V))
MED (I/III): ((4.5V))
HIGH (II): ((6.6V))
LOW: ((3.4V))
MED (I/III): ((4.6V))
HIGH (II): ((6.7V))
ME101 VU(L)
ME201 VU(R)
D319 PEAK
CNJ302 HEADPHONES
D318 REC LEVEL
AEP, UK, E MODEL
CNJ301 REC/PB
LINE OUT
LINE IN
RECORD LEVEL(L)
RECORD LEVEL(R)
PLAYBACK LEVEL(R)
LEVEL METER(R)
LEVEL METER
IC101
IC201
IC301
IC302
S1 BIAS
LOW
MED(I/III)
HIGH(II)
S2 DOLBY NR
ON
OFF
TYPE II
TYPE III
S3
S4
S5 INPUT SELECT
MIC
REC/PB
LINE
REC MUTE
REC LEVEL
CNJ201 (R) MIC
CNJ101 (L)
US, CANADIAN MODEL
AEP, UK, E MODEL
SONY 1-592-892
S2V

	Q, IC	D
1	307 305 308 301	312 317 301 309 314 305 313 316 303 307 311 315 310
2	306 104 102 302 311 IC101 101 103 IC301 203	304 302 308 102 103, 101
3	201 IC201 202 309 310 204	202 203, 201
4	IC302 205	208 207 319 108 107
5	312 313 105	318
	Q, IC	D

4-2. SCHEMATIC DIAGRAM


A
B
C
D
E
F
G
H
[AUDIO AMP BOARD]
[PEAK BOARD]
[LED BOARD]
[SERVO AMP BOARD]
IC101 NJM4560D
RECORD EQ AMP
IC101 NJM4560D
LINE AMP
IC301 μPC4556C
DOLBY NR DET AMP
IC302 μPC4557C
HEADPHONE AMP
IC1001 CX069
SERVO AMP
Q105 2SC1345
MIC AMP
Q101 2SC1345
PLAYBACK AMP
Q102 2SC1345
DOLBY NR AMP
Q103 2SC1364
DOLBY NR CONTROL
Q104 2SC2001
MUTING
Q311 2SC1213A
BIAS OSC
Q309 2SA1026
BIAS OSC DRIVE
Q310 2SC1364
SWITCHING
Q307,308 2SC1364
SWITCHING
Q312,313
PEAK INDIC
Q1001 2SD414
MOTOR DRIVE
D101,103 1T40
D102 1T22
D107,108 1T22
D315 10E2
D314 RD3.0E-B
D316 HZ6BIL
D318 SEL103R
D319 SEL103R
J102 LINE IN
CNJ101 MIC
CNJ301 REC/PB
AEP,UK,E MODEL
US, CANADIAN MODEL
CNJ103 LINE OUT-(L)
CNJ202 LINE IN
CNJ201 MIC
CNJ203 LINE OUT-(R)
L-CH
R-CH
R-CH (SAME AS L-CH FROM REF. NO.200)
HRP PF180-3602A
HE EF135-36F
S5 INPUT SELECT
MIC REC/PB
LINE
REC MUTE
LPF101
RV102 20k-A REC LEVEL
S4 EQ
TYPE I → TYPE II → TYPE III
RV103 4.7k-B RECORD LEVEL(L)
PLAYBACK EQ (L)
RV101 220-B PLAYBACK LEVEL(L)
S2 DOLBY NR
ON
OFF
S2(DOLBY NR)ON: 0V
S2(DOLBY NR)OFF: 0.6V
S1 RECORD/PLAYBACK
PLAYBACK → RECORD
L101 27mH
ME101 VU(L)
ME201 VU(R)
D319 PEAK
RV104 2k-B LEVEL METER(L)
RV204 LEVEL METER(R)
RECORD BIAS
T301
CT101 10-100p (L)
CT201 10-100p (R)
LOW: (3.4V)
MED(I/III): (4.6V)
HIGH(II): (6.7V)
LOW: (3.2V)
MED(I/III): (4.5V)
HIGH(II): (6.6V)
R322 120 (2W)
S3 BIAS
HIGH (II) ← MED (I/III) → LOW
REC LEVEL
REG
SHAPER
SAWTOOTH WAVE PRODUCE
COMPARATOR
SMOOTHER/DC AMP
FG
RV1001 10k-B TAPE SPEED
R1008 10
M101 MOTOR DNF-1001B
S1001 MUTING
(ON: JUST WHEN ONE OF FUNCTION BUTTONS IS PRESSED.)
PL1001 (CASSETTE)
CNP1001
CNJ1001
S1002 TIMING
(ON: FORWARD OR RECORD MODE)
R336 150 (2W)
S1-5 RECORD/PLAYBACK
PLAYBACK → RECORD
MEASURED WITH VTVM
LOW: (49V AC)
MED(I/III): (55V AC)
HIGH(II): (63V AC)
9.5V
-9.5V
14.5V
-14.5V

Note: The comp
⚠ are cri
part numb

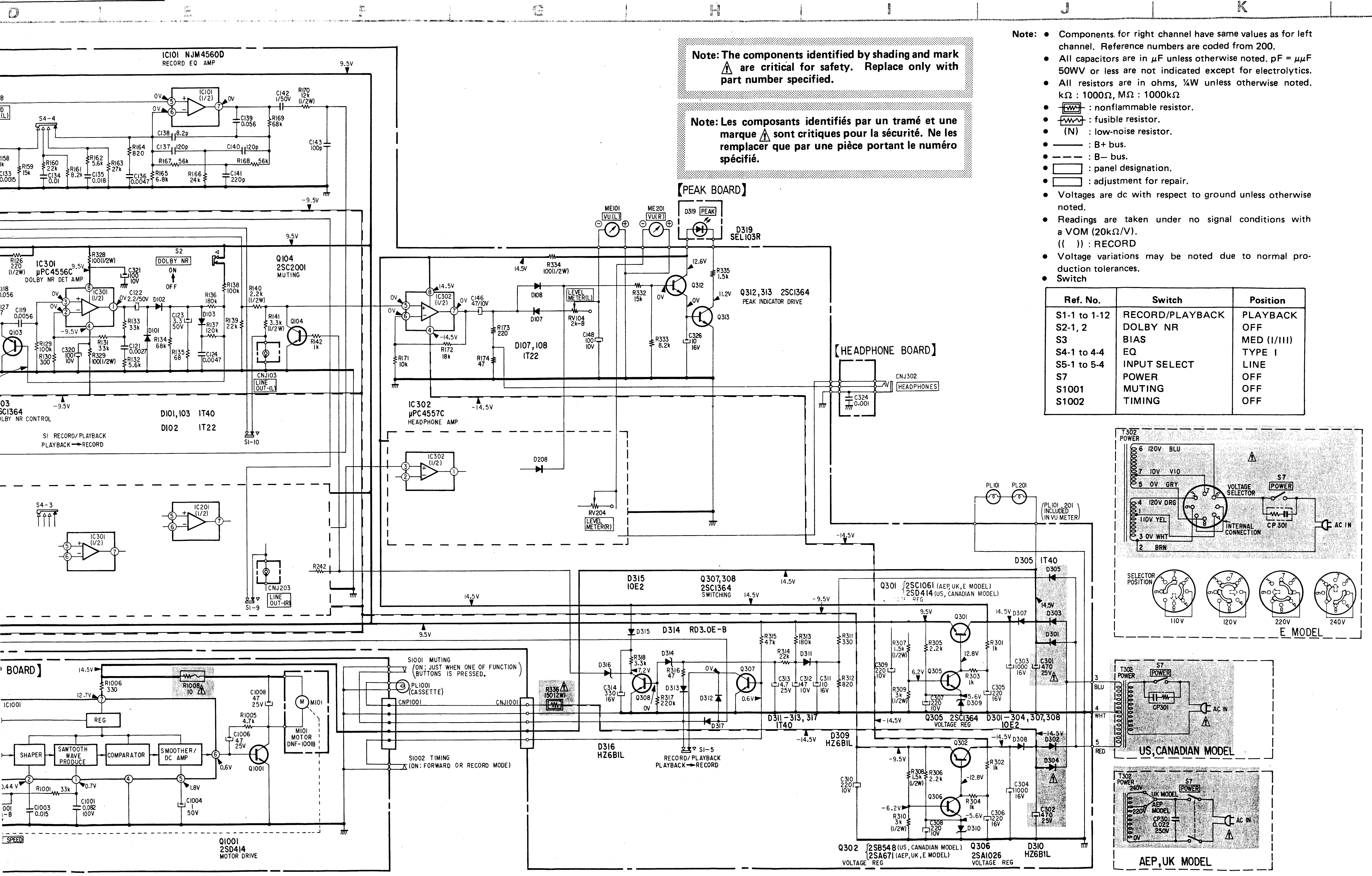
Note: Les comp
marque ⚠
remplacer
spécifié.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

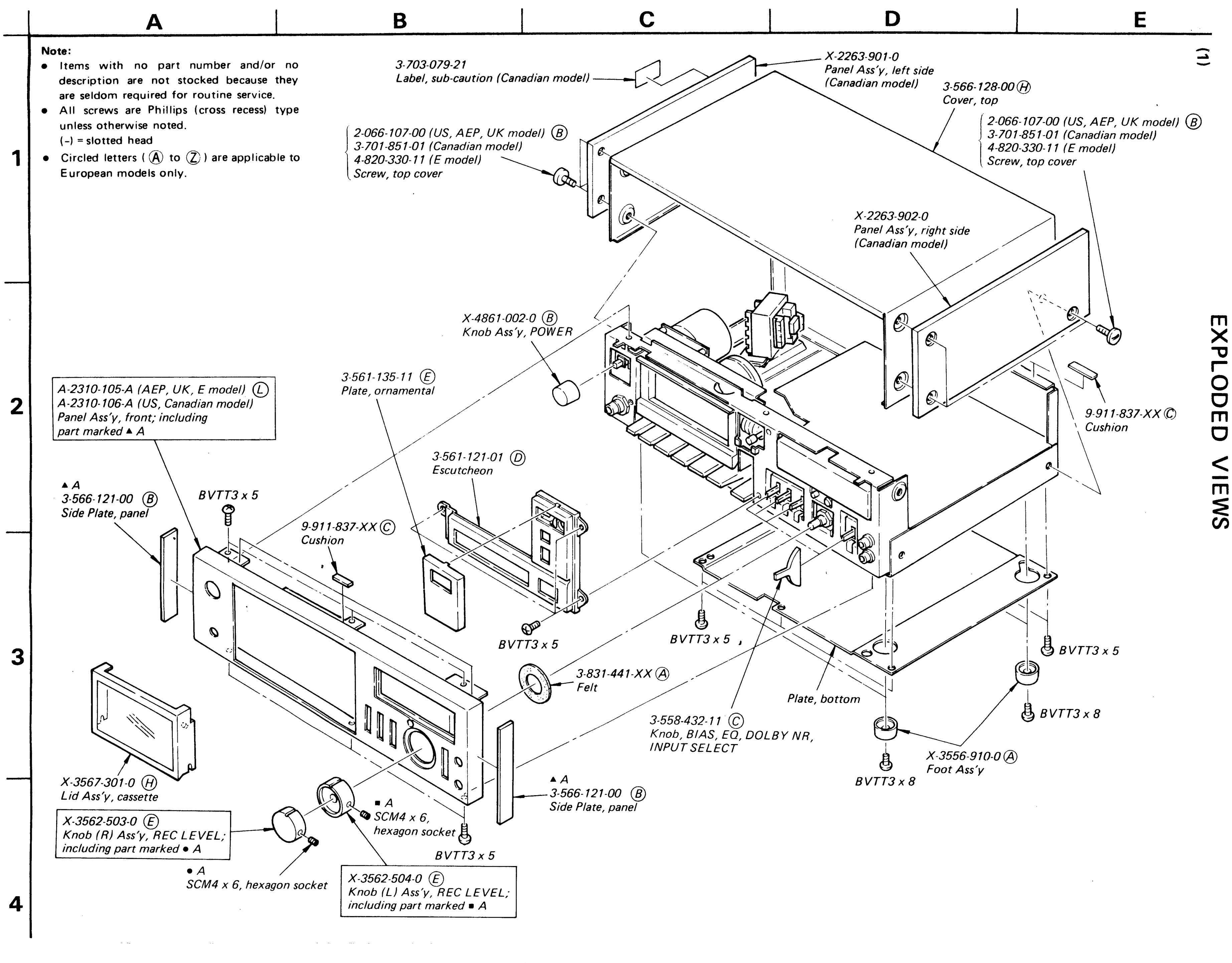
Note:
- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- All capacitors are in µF unless otherwise noted. pF = µµF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- (N) : low-noise resistor.
- ——— : B+ bus.
- – – – : B– bus.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no signal conditions with a VOM (20kΩ/V).
  (( )) : RECORD
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S1-1 to 1-12	RECORD/PLAYBACK	PLAYBACK
S2-1, 2	DOLBY NR	OFF
S3	BIAS	MED (I/III)
S4-1 to 4-4	EQ	TYPE I
S5-1 to 5-4	INPUT SELECT	LINE
S7	POWER	OFF
S1001	MUTING	OFF
S1002	TIMING	OFF


D
E
F
G
H
I
J
K
1
2
3
4
5
IC101 NJM4560D
RECORD EQ AMP
IC101 (1/2)
9.5V
S4-4
C138 8.2p
C137 120p
C140 120p
R167 56k
R168 56k
C142 1/50V
R170 12k (1/2W)
C139 0.056
R169 68k
C143 100p
R164 820
R162 5.6k
R163 27k
R160 22k
R161 8.2k
R159 15k
C134 0.01
C135 0.018
C136 0.0047
R165 6.8k
R166 24k
C141 220p
-9.5V
IC301 µPC4556C
DOLBY NR DET AMP
IC301 (1/2)
R328 100(1/2W)
C321 100 10V
S2 DOLBY NR
ON
OFF
Q104 2SC2001 MUTING
R138 100k
R140 2.2k (1/2W)
R141 3.3k (1/2W)
R142 1k
C122 2.2/50V
D102
D101
D103
R136 180k
R137 120k
R139 22k
R133 33k
R134 68k
R135 68
C123 3.3 50V
C121 0.0027
C124 0.0047
R131 33k
R132 5.6k
R329 100(1/2W)
C320 100 10V
R129 100k
R130 300
C119 0.0056
Q103
R126 220 (1/2W)
CNJ103 LINE OUT-(L)
Q103 2SC1364 DOLBY NR CONTROL
D101,103 1T40
D102 1T22
S1 RECORD/PLAYBACK
PLAYBACK → RECORD
S1-10
S4-3
IC201 (1/2)
IC301 (1/2)
CNJ203 LINE OUT-(R)
S1-9
R242
ME101 VU(L)
ME201 VU(R)
PEAK BOARD
D319 PEAK
D319 SEL103R
R334 100(1/2W)
14.5V
IC302 (1/2)
C146 47/10V
D108
D107
LEVEL METER(L)
RV104 2k-B
R173 220
R172 18k
R171 10k
R174 47
D107,108 1T22
C148 100 10V
R332 15k
R333 8.2k
Q312
Q313
R335 1.5k
C326 10 16V
12.6V
11.2V
Q312,313 2SC1364
PEAK INDICATOR DRIVE
HEADPHONE BOARD
CNJ302 HEADPHONES
C324 0.001
IC302 µPC4557C
HEADPHONE AMP
-14.5V
IC302 (1/2)
D208
RV204
LEVEL METER(R)
PL101
PL201
(PL101, 201 INCLUDED IN VU METER)
T302 POWER
6 120V BLU
7 10V VIO
5 0V GRY
4 120V ORG
1 110V YEL
3 0V WHT
2 BRN
VOLTAGE SELECTOR
S7 POWER
INTERNAL CONNECTION
CP301
AC IN
SELECTOR POSITION
110V
120V
220V
240V
E MODEL
D315 10E2
Q307,308 2SC1364 SWITCHING
Q301 2SC1061 (AEP,UK,E MODEL) 2SD414 (US, CANADIAN MODEL) REG
D305 1T40
D314 RD3.0E-B
R318 3.3k
R316 47
R317 220k
C314 330 16V
Q308
D313
D312
Q307
D317
R315 47k
R314 22k
R313 180k
R311 330
D311
C313 4.7 25V
C312 47 10V
C311 10 16V
R312 820
R307 1.5k (1/2W)
R305 2.2k
R301 1k
C309 220 10V
Q305
R303 1k
C307 220 10V
C305 220 16V
C303 1000 16V
C301 470 25V
D301
D303
D307
D309
R309 3k (1/2W)
D311-313, 317 1T40
Q305 2SC1364 VOLTAGE REG
D301-304, 307, 308 10E2
D309 HZ6B1L
D316 HZ6B1L
S1-5 RECORD/PLAYBACK
PLAYBACK → RECORD
Q302
R302 1k
D308
D302
D304
R308 1.5k (1/2W)
R306 2.2k
C310 220 10V
Q306
R304 1k
C306 220 16V
C304 1000 16V
C302 470 25V
R310 3k (1/2W)
C308 220 10V
D310
Q302 2SB548 (US, CANADIAN MODEL) 2SA671 (AEP, UK, E MODEL) VOLTAGE REG
Q306 2SA1026 VOLTAGE REG
D310 HZ6B1L
T302 POWER
S7 POWER
BLU
WHT
RED
US, CANADIAN MODEL
240V
UK MODEL
220V
AEP MODEL
CP301 0.022 250V
AEP, UK MODEL
BOARD
IC1001
R1006 330
R1008 10
12.7V
REG
SHAPER
SAWTOOTH WAVE PRODUCE
COMPARATOR
SMOOTHER/ DC AMP
R1001 33k
C1003 0.015
C1001 0.082 100V
C1004 1 50V
C1006 47 25V
C1008 47 25V
R1005 4.7k
Q1001
M1001 MOTOR DNF-1001B
S1001 MUTING (ON: JUST WHEN ONE OF FUNCTION BUTTONS IS PRESSED.)
PL1001 (CASSETTE)
CNP1001
CNJ1001
S1002 TIMING (ON: FORWARD OR RECORD MODE)
R336 15(1/2W)
Q1001 2SD414 MOTOR DRIVE
SPEED

SECTION 5
EXPLODED VIEWS

(1)


A
B
C
D
E
1
2
3
4
3-703-079-21
Label, sub-caution (Canadian model)
X-2263-901-0
Panel Ass'y, left side
(Canadian model)
3-566-128-00 Ⓗ
Cover, top
2-066-107-00 (US, AEP, UK model) Ⓑ
3-701-851-01 (Canadian model)
4-820-330-11 (E model)
Screw, top cover
2-066-107-00 (US, AEP, UK model) Ⓑ
3-701-851-01 (Canadian model)
4-820-330-11 (E model)
Screw, top cover
X-2263-902-0
Panel Ass'y, right side
(Canadian model)
X-4861-002-0 Ⓑ
Knob Ass'y, POWER
9-911-837-XX Ⓒ
Cushion
A-2310-105-A (AEP, UK, E model) Ⓛ
A-2310-106-A (US, Canadian model)
Panel Ass'y, front; including
part marked ▲ A
3-561-135-11 Ⓔ
Plate, ornamental
3-561-121-01 Ⓓ
Escutcheon
▲ A
3-566-121-00 Ⓑ
Side Plate, panel
BVTT3 x 5
9-911-837-XX Ⓒ
Cushion
BVTT3 x 5
BVTT3 x 5
BVTT3 x 5
3-831-441-XX Ⓐ
Felt
Plate, bottom
BVTT3 x 8
3-558-432-11 Ⓒ
Knob, BIAS, EQ, DOLBY NR,
INPUT SELECT
X-3556-910-0 Ⓐ
Foot Ass'y
BVTT3 x 8
X-3567-301-0 Ⓗ
Lid Ass'y, cassette
▲ A
3-566-121-00 Ⓑ
Side Plate, panel
■ A
SCM4 x 6,
hexagon socket
X-3562-503-0 Ⓔ
Knob (R) Ass'y, REC LEVEL;
including part marked ● A
BVTT3 x 5
● A
SCM4 x 6, hexagon socket
X-3562-504-0 Ⓔ
Knob (L) Ass'y, REC LEVEL;
including part marked ■ A

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

(2)

A	B	C	D	E

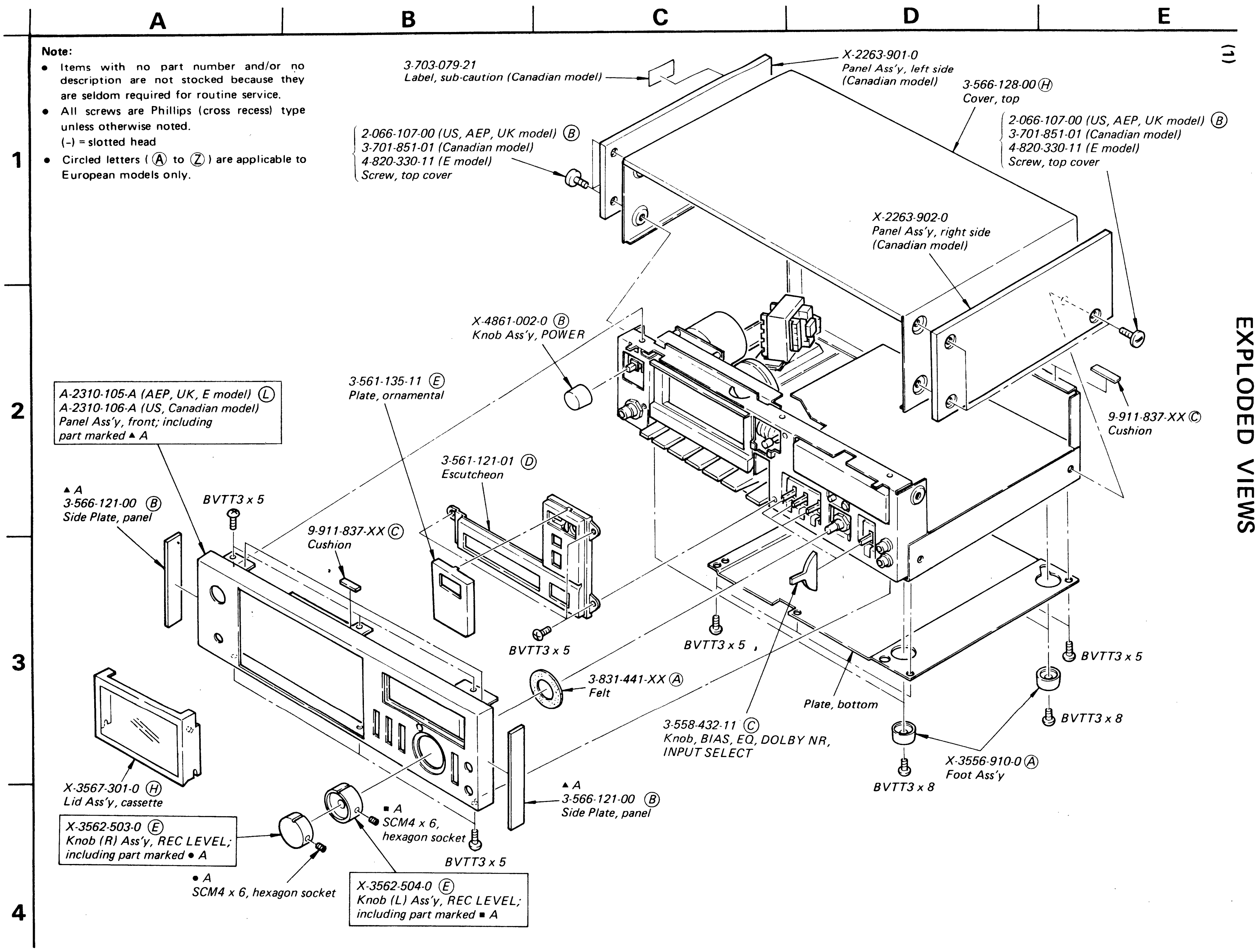
Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service

SECTION 5
EXPLODED VIEWS

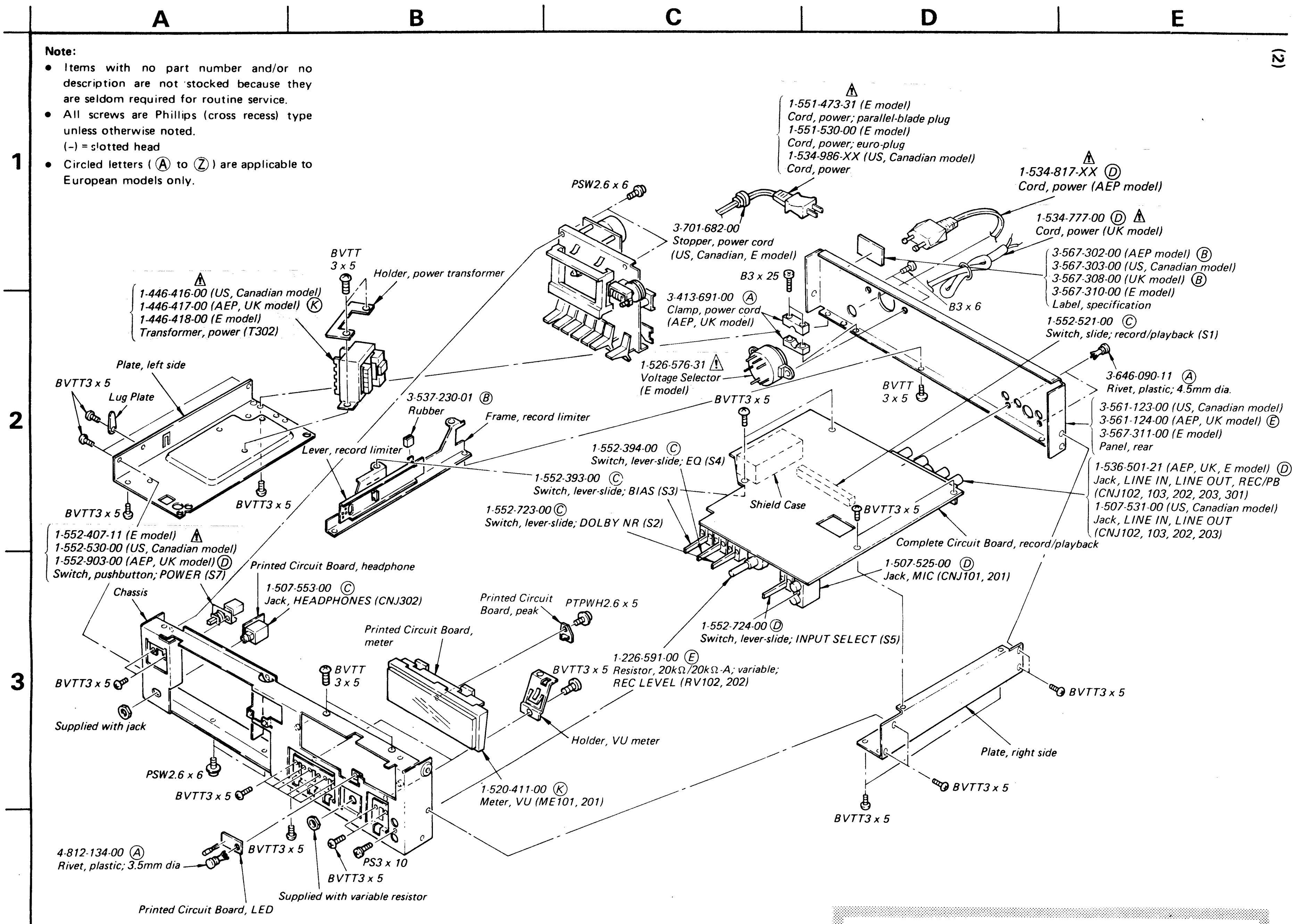
(1)

Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
3-703-079-21
Label, sub-caution (Canadian model)
X-2263-901-0
Panel Ass'y, left side
(Canadian model)
3-566-128-00 Ⓗ
Cover, top
2-066-107-00 (US, AEP, UK model) Ⓑ
3-701-851-01 (Canadian model)
4-820-330-11 (E model)
Screw, top cover
2-066-107-00 (US, AEP, UK model) Ⓑ
3-701-851-01 (Canadian model)
4-820-330-11 (E model)
Screw, top cover
X-2263-902-0
Panel Ass'y, right side
(Canadian model)
X-4861-002-0 Ⓑ
Knob Ass'y, POWER
3-561-135-11 Ⓔ
Plate, ornamental
9-911-837-XX Ⓒ
Cushion
A-2310-105-A (AEP, UK, E model) Ⓛ
A-2310-106-A (US, Canadian model)
Panel Ass'y, front; including
part marked ▲ A
3-561-121-01 Ⓓ
Escutcheon
▲ A
3-566-121-00 Ⓑ
Side Plate, panel
BVTT3 x 5
9-911-837-XX Ⓒ
Cushion
BVTT3 x 5
BVTT3 x 5
BVTT3 x 5
3-831-441-XX Ⓐ
Felt
Plate, bottom
3-558-432-11 Ⓒ
Knob, BIAS, EQ, DOLBY NR,
INPUT SELECT
BVTT3 x 8
X-3556-910-0 Ⓐ
Foot Ass'y
BVTT3 x 8
X-3567-301-0 Ⓗ
Lid Ass'y, cassette
▲ A
3-566-121-00 Ⓑ
Side Plate, panel
■ A
SCM4 x 6,
hexagon socket
BVTT3 x 5
X-3562-503-0 Ⓔ
Knob (R) Ass'y, REC LEVEL;
including part marked ● A
● A
SCM4 x 6, hexagon socket
X-3562-504-0 Ⓔ
Knob (L) Ass'y, REC LEVEL;
including part marked ■ A

(2)

Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

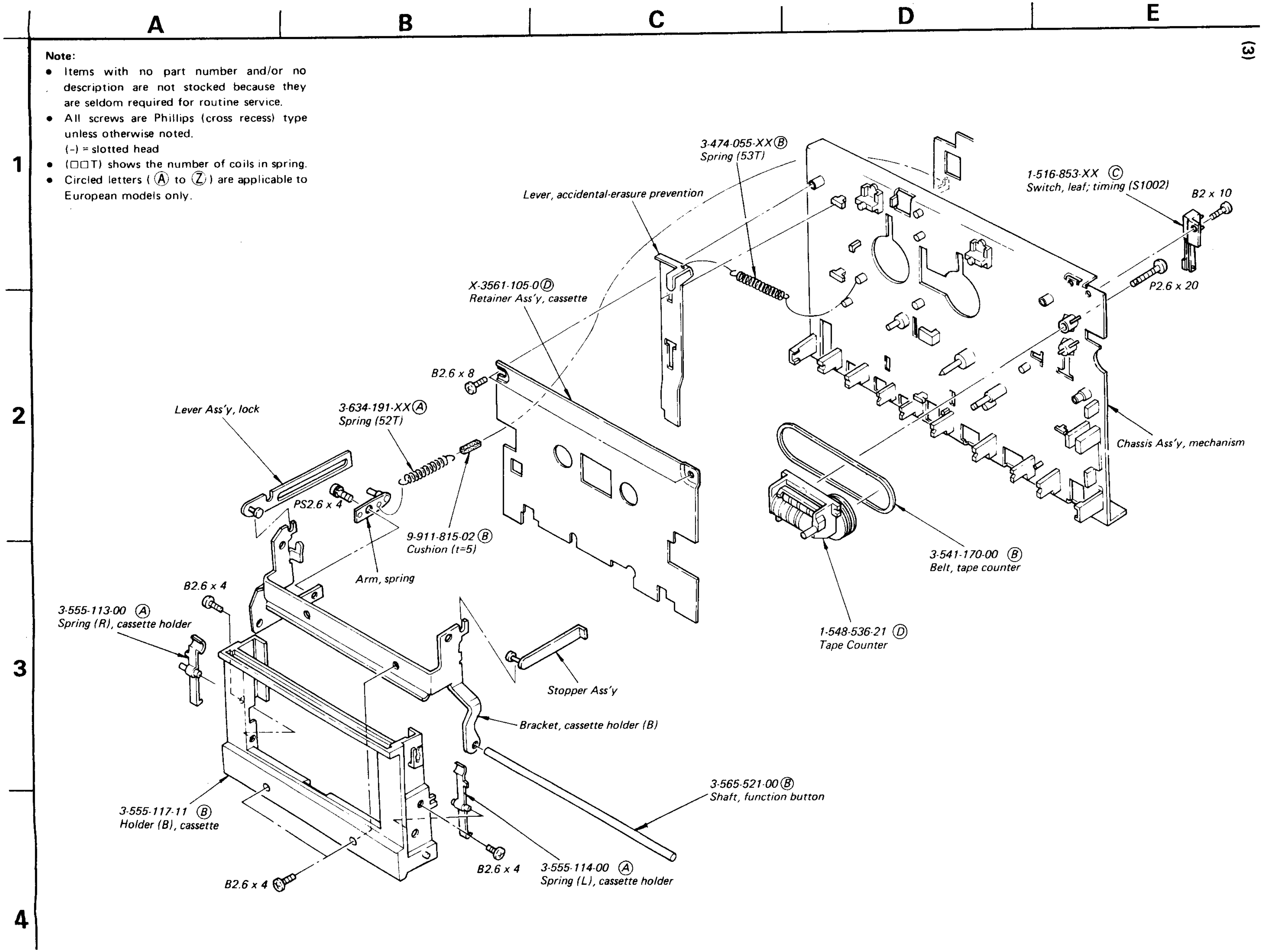

A
B
C
D
E
1
2
3
4
⚠
1-551-473-31 (E model)
Cord, power; parallel-blade plug
1-551-530-00 (E model)
Cord, power; euro-plug
1-534-986-XX (US, Canadian model)
Cord, power
⚠
1-534-817-XX Ⓓ
Cord, power (AEP model)
1-534-777-00 Ⓓ ⚠
Cord, power (UK model)
3-567-302-00 (AEP model) Ⓑ
3-567-303-00 (US, Canadian model)
3-567-308-00 (UK model) Ⓑ
3-567-310-00 (E model)
Label, specification
B3 x 6
1-552-521-00 Ⓒ
Switch, slide; record/playback (S1)
3-646-090-11 Ⓐ
Rivet, plastic; 4.5mm dia.
3-561-123-00 (US, Canadian model)
3-561-124-00 (AEP, UK model) Ⓔ
3-567-311-00 (E model)
Panel, rear
1-536-501-21 (AEP, UK, E model) Ⓓ
Jack, LINE IN, LINE OUT, REC/PB
(CNJ102, 103, 202, 203, 301)
1-507-531-00 (US, Canadian model)
Jack, LINE IN, LINE OUT
(CNJ102, 103, 202, 203)
PSW2.6 x 6
3-701-682-00
Stopper, power cord
(US, Canadian, E model)
B3 x 25
3-413-691-00 Ⓐ
Clamp, power cord
(AEP, UK model)
1-526-576-31 ⚠
Voltage Selector
(E model)
BVTT3 x 5
BVTT
3 x 5
BVTT
3 x 5
Holder, power transformer
⚠
1-446-416-00 (US, Canadian model)
1-446-417-00 (AEP, UK model) Ⓚ
1-446-418-00 (E model)
Transformer, power (T302)
Plate, left side
BVTT3 x 5
Lug Plate
3-537-230-01 Ⓑ
Rubber
Frame, record limiter
Lever, record limiter
1-552-394-00 Ⓒ
Switch, lever-slide; EQ (S4)
1-552-393-00 Ⓒ
Switch, lever-slide; BIAS (S3)
Shield Case
BVTT3 x 5
1-552-723-00 Ⓒ
Switch, lever-slide; DOLBY NR (S2)
BVTT3 x 5
BVTT3 x 5
Complete Circuit Board, record/playback
1-507-525-00 Ⓓ
Jack, MIC (CNJ101, 201)
1-552-407-11 (E model) ⚠
1-552-530-00 (US, Canadian model)
1-552-903-00 (AEP, UK model) Ⓓ
Switch, pushbutton; POWER (S7)
Printed Circuit Board, headphone
1-507-553-00 Ⓒ
Jack, HEADPHONES (CNJ302)
Chassis
Printed Circuit
Board, peak
PTPWH2.6 x 5
1-552-724-00 Ⓓ
Switch, lever-slide; INPUT SELECT (S5)
Printed Circuit Board,
meter
1-226-591-00 Ⓔ
BVTT3 x 5
Resistor, 20kΩ/20kΩ-A; variable;
REC LEVEL (RV102, 202)
BVTT
3 x 5
BVTT3 x 5
Supplied with jack
Holder, VU meter
BVTT3 x 5
Plate, right side
PSW2.6 x 6
BVTT3 x 5
1-520-411-00 Ⓚ
Meter, VU (ME101, 201)
BVTT3 x 5
BVTT3 x 5
4-812-134-00 Ⓐ
Rivet, plastic; 3.5mm dia
BVTT3 x 5
PS3 x 10
BVTT3 x 5
Supplied with variable resistor
Printed Circuit Board, LED

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(3)

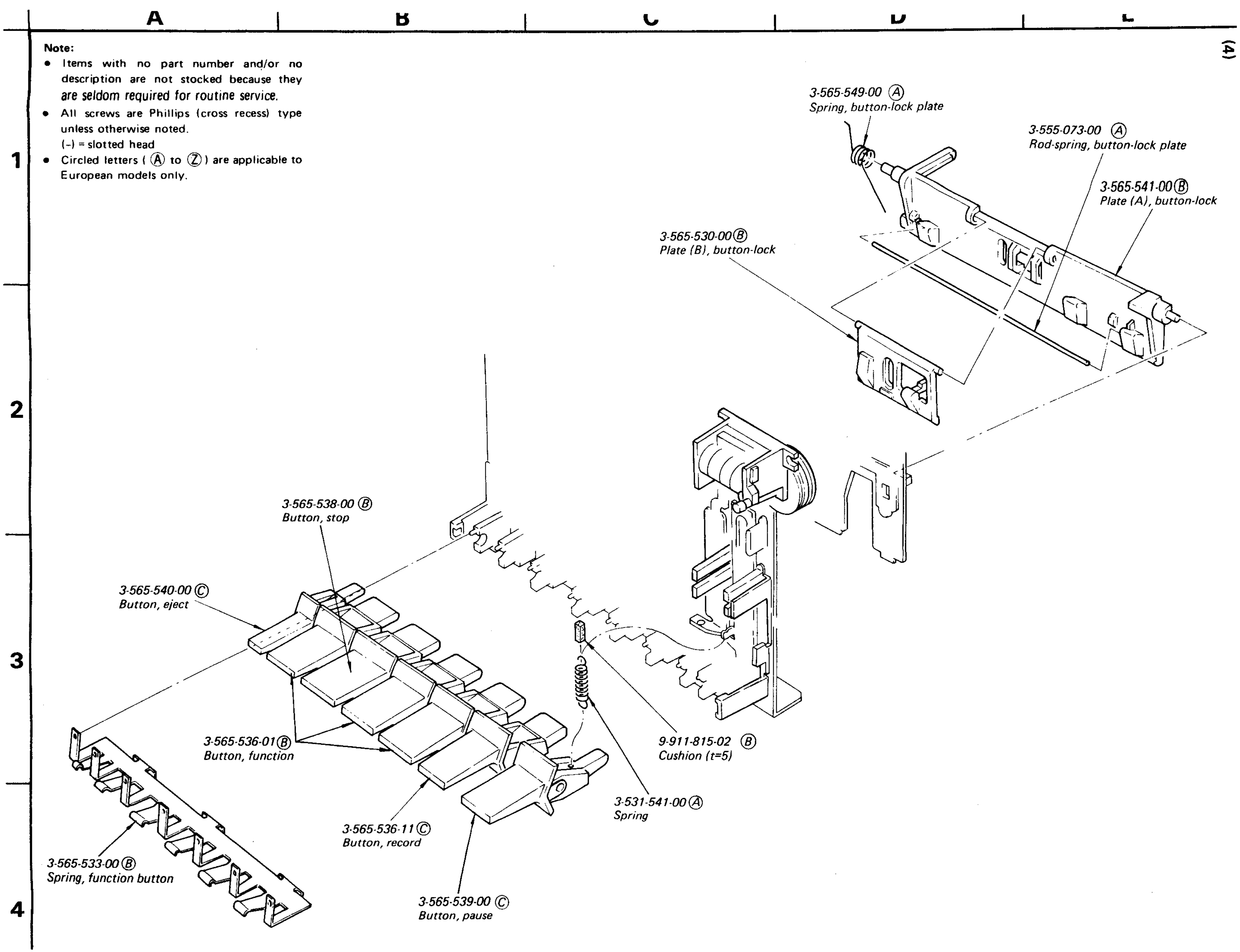
Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
3-474-055-XXⒷ
Spring (53T)
Lever, accidental-erasure prevention
1-516-853-XX Ⓒ
Switch, leaf; timing (S1002)
B2 x 10
P2.6 x 20
X-3561-105-0Ⓓ
Retainer Ass'y, cassette
B2.6 x 8
Lever Ass'y, lock
3-634-191-XXⒶ
Spring (52T)
PS2.6 x 4
9-911-815-02 Ⓑ
Cushion (t=5)
Arm, spring
Chassis Ass'y, mechanism
3-541-170-00 Ⓑ
Belt, tape counter
1-548-536-21 Ⓓ
Tape Counter
B2.6 x 4
3-555-113-00 Ⓐ
Spring (R), cassette holder
Stopper Ass'y
Bracket, cassette holder (B)
3-565-521-00Ⓑ
Shaft, function button
3-555-117-11 Ⓑ
Holder (B), cassette
B2.6 x 4
B2.6 x 4
3-555-114-00 Ⓐ
Spring (L), cassette holder

(4)

Note:

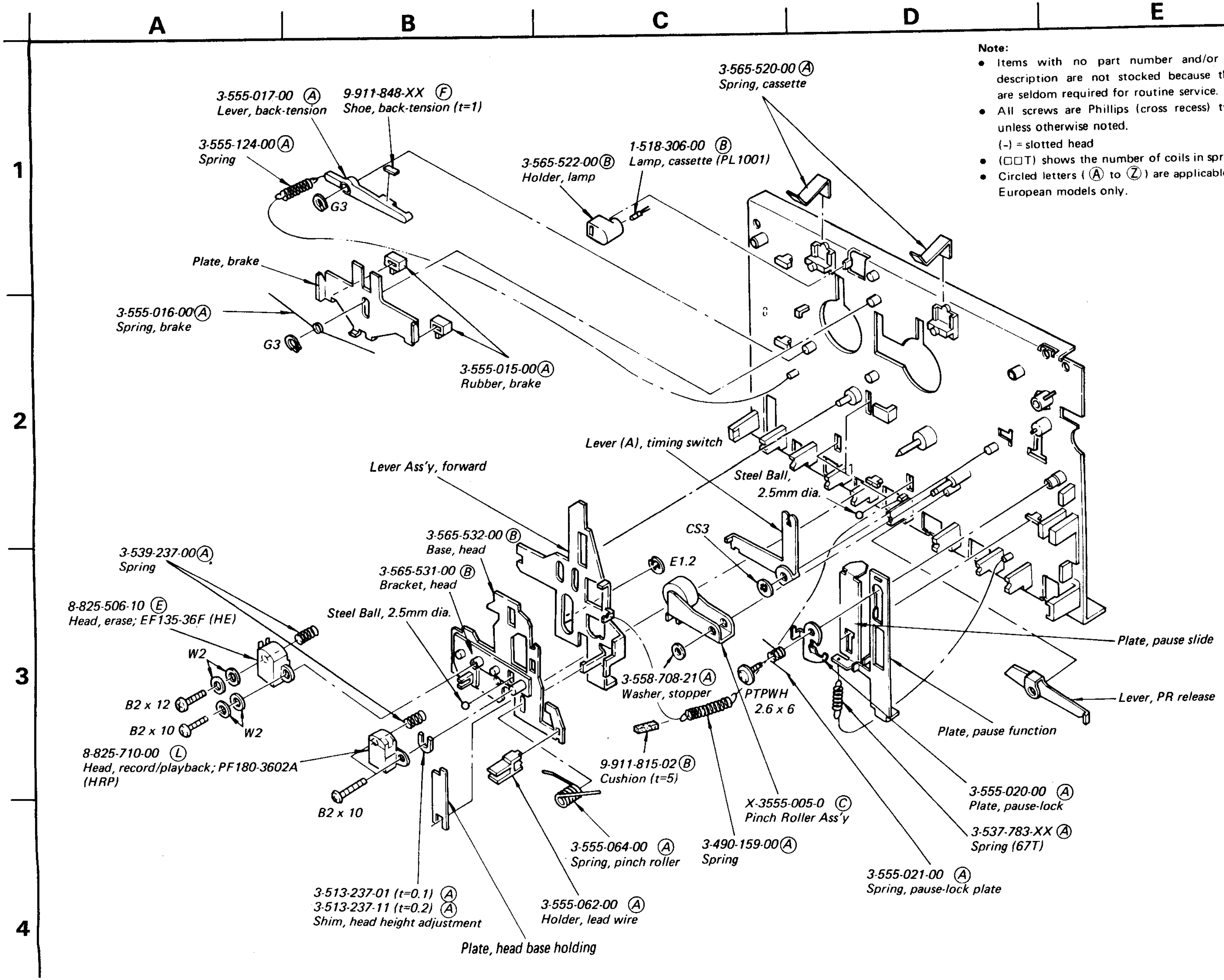
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
3-565-549-00 Ⓐ
Spring, button-lock plate
3-555-073-00 Ⓐ
Rod-spring, button-lock plate
3-565-541-00Ⓑ
Plate (A), button-lock
3-565-530-00Ⓑ
Plate (B), button-lock
3-565-538-00 Ⓑ
Button, stop
3-565-540-00 Ⓒ
Button, eject
3-565-536-01Ⓑ
Button, function
9-911-815-02 Ⓑ
Cushion (t=5)
3-531-541-00Ⓐ
Spring
3-565-536-11Ⓒ
Button, record
3-565-533-00Ⓑ
Spring, function button
3-565-539-00 Ⓒ
Button, pause

(5)

Note:

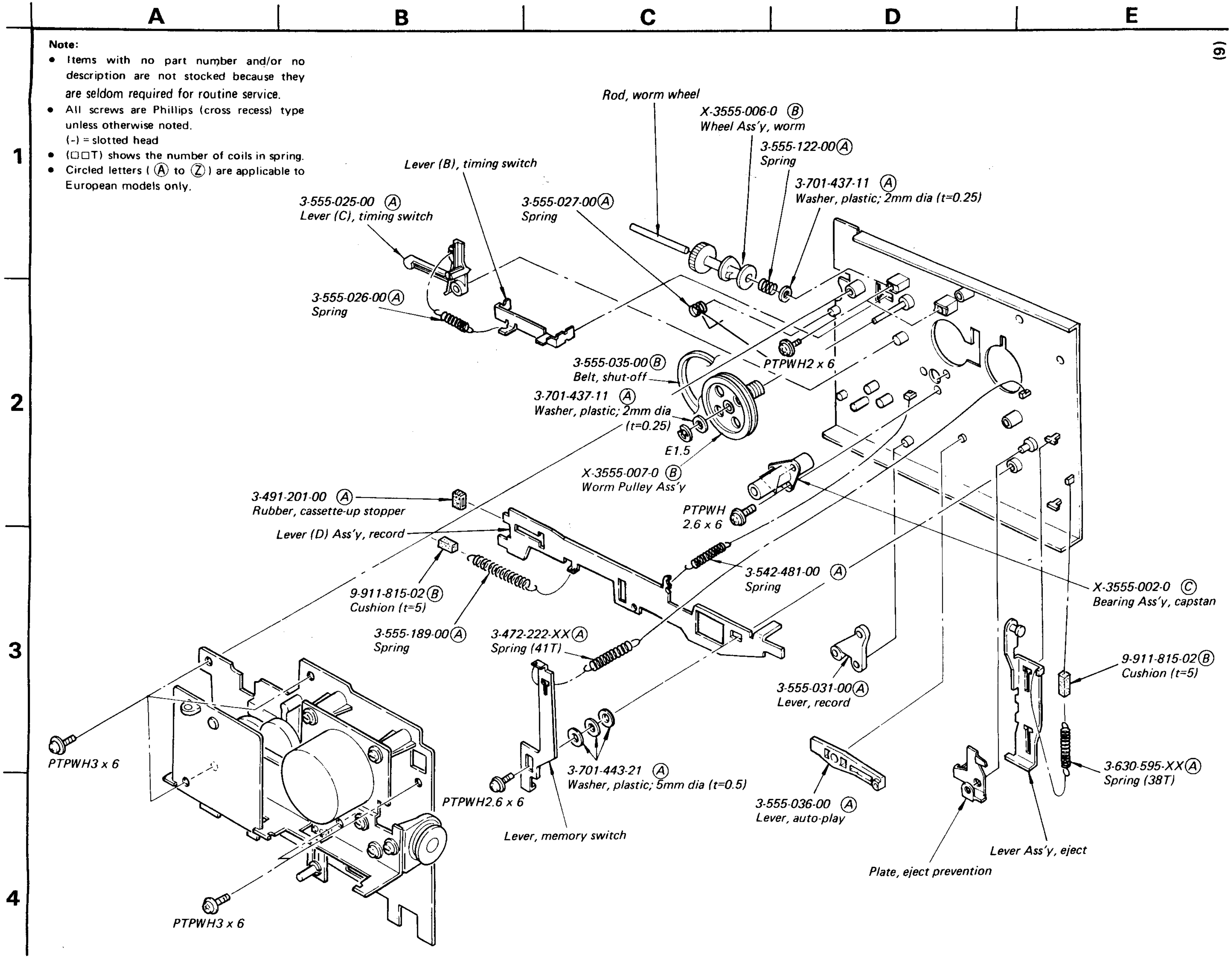
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
3-555-017-00 Ⓐ
Lever, back-tension
9-911-848-XX Ⓕ
Shoe, back-tension (t=1)
3-555-124-00Ⓐ
Spring
G3
Plate, brake
3-555-016-00Ⓐ
Spring, brake
G3
3-555-015-00Ⓐ
Rubber, brake
3-565-522-00Ⓑ
Holder, lamp
1-518-306-00 Ⓑ
Lamp, cassette (PL1001)
3-565-520-00Ⓐ
Spring, cassette
Lever (A), timing switch
Lever Ass'y, forward
Steel Ball,
2.5mm dia.
CS3
E1.2
3-565-532-00Ⓑ
Base, head
3-565-531-00 Ⓑ
Bracket, head
Steel Ball, 2.5mm dia.
3-539-237-00Ⓐ
Spring
8-825-506-10 Ⓔ
Head, erase; EF135-36F (HE)
W2
B2 x 12
B2 x 10
W2
8-825-710-00 Ⓛ
Head, record/playback; PF180-3602A
(HRP)
B2 x 10
3-558-708-21Ⓐ
Washer, stopper
PTPWH
2.6 x 6
9-911-815-02Ⓑ
Cushion (t=5)
X-3555-005-0 Ⓒ
Pinch Roller Ass'y
3-490-159-00Ⓐ
Spring
3-555-064-00 Ⓐ
Spring, pinch roller
3-513-237-01 (t=0.1) Ⓐ
3-513-237-11 (t=0.2) Ⓐ
Shim, head height adjustment
3-555-062-00 Ⓐ
Holder, lead wire
Plate, head base holding
Plate, pause slide
Lever, PR release
Plate, pause function
3-555-020-00 Ⓐ
Plate, pause-lock
3-537-783-XX Ⓐ
Spring (67T)
3-555-021-00 Ⓐ
Spring, pause-lock plate

(6)

Note:

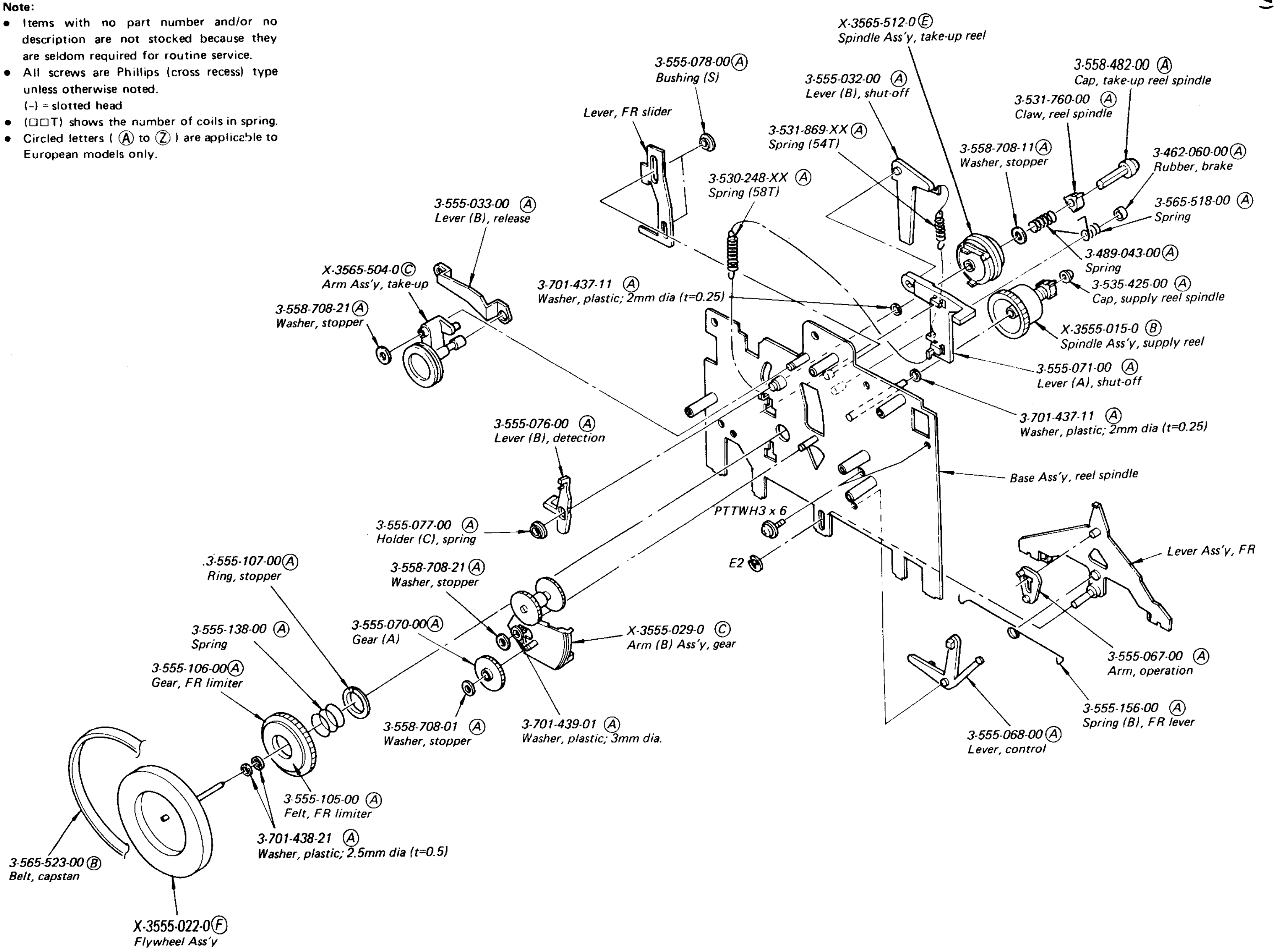
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
Rod, worm wheel
X-3555-006-0 Ⓑ
Wheel Ass'y, worm
3-555-122-00Ⓐ
Spring
3-701-437-11 Ⓐ
Washer, plastic; 2mm dia (t=0.25)
Lever (B), timing switch
3-555-025-00 Ⓐ
Lever (C), timing switch
3-555-027-00Ⓐ
Spring
3-555-026-00Ⓐ
Spring
3-555-035-00Ⓑ
Belt, shut-off
PTPWH2 x 6
3-701-437-11 Ⓐ
Washer, plastic; 2mm dia
(t=0.25)
E1.5
X-3555-007-0 Ⓑ
Worm Pulley Ass'y
3-491-201-00 Ⓐ
Rubber, cassette-up stopper
Lever (D) Ass'y, record
PTPWH
2.6 x 6
9-911-815-02Ⓑ
Cushion (t=5)
3-542-481-00 Ⓐ
Spring
X-3555-002-0 Ⓒ
Bearing Ass'y, capstan
3-555-189-00Ⓐ
Spring
3-472-222-XXⒶ
Spring (41T)
3-555-031-00Ⓐ
Lever, record
9-911-815-02Ⓑ
Cushion (t=5)
PTPWH3 x 6
3-701-443-21 Ⓐ
Washer, plastic; 5mm dia (t=0.5)
3-630-595-XXⒶ
Spring (38T)
PTPWH2.6 x 6
3-555-036-00 Ⓐ
Lever, auto-play
Lever, memory switch
Lever Ass'y, eject
Plate, eject prevention
PTPWH3 x 6

(7)

Note:

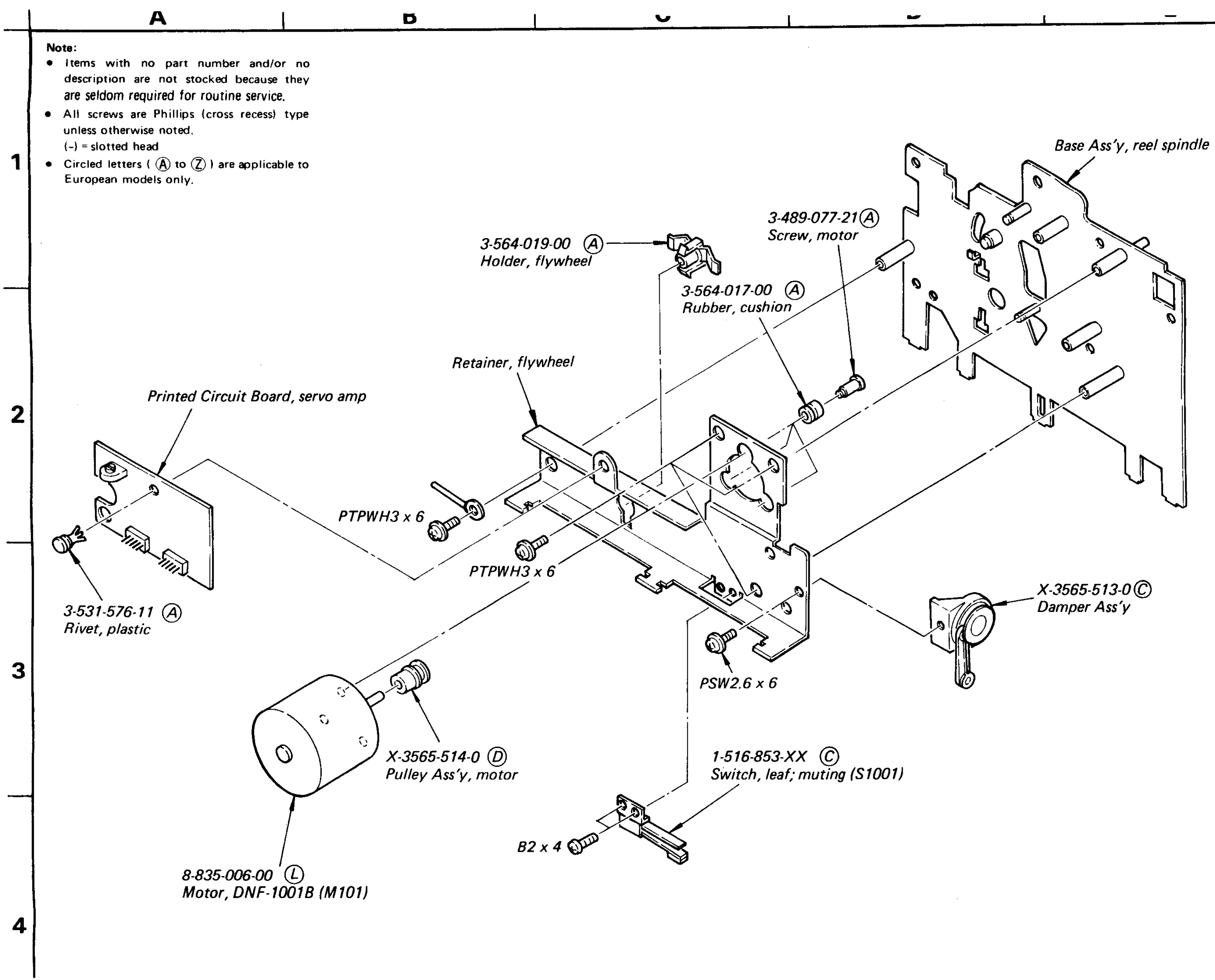
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
X-3565-512-0Ⓔ
Spindle Ass'y, take-up reel
3-555-078-00Ⓐ
Bushing (S)
3-555-032-00 Ⓐ
Lever (B), shut-off
3-558-482-00 Ⓐ
Cap, take-up reel spindle
3-531-760-00 Ⓐ
Claw, reel spindle
Lever, FR slider
3-531-869-XXⒶ
Spring (54T)
3-558-708-11Ⓐ
Washer, stopper
3-462-060-00Ⓐ
Rubber, brake
3-530-248-XX Ⓐ
Spring (58T)
3-565-518-00 Ⓐ
Spring
3-555-033-00 Ⓐ
Lever (B), release
3-489-043-00Ⓐ
Spring
X-3565-504-0Ⓒ
Arm Ass'y, take-up
3-701-437-11 Ⓐ
Washer, plastic; 2mm dia (t=0.25)
3-535-425-00 Ⓐ
Cap, supply reel spindle
3-558-708-21Ⓐ
Washer, stopper
X-3555-015-0 Ⓑ
Spindle Ass'y, supply reel
3-555-071-00 Ⓐ
Lever (A), shut-off
3-701-437-11 Ⓐ
Washer, plastic; 2mm dia (t=0.25)
3-555-076-00 Ⓐ
Lever (B), detection
Base Ass'y, reel spindle
PTTWH3 x 6
3-555-077-00 Ⓐ
Holder (C), spring
E2
Lever Ass'y, FR
3-555-107-00Ⓐ
Ring, stopper
3-558-708-21 Ⓐ
Washer, stopper
3-555-070-00Ⓐ
Gear (A)
X-3555-029-0 Ⓒ
Arm (B) Ass'y, gear
3-555-138-00 Ⓐ
Spring
3-555-106-00Ⓐ
Gear, FR limiter
3-555-067-00 Ⓐ
Arm, operation
3-555-156-00 Ⓐ
Spring (B), FR lever
3-558-708-01 Ⓐ
Washer, stopper
3-701-439-01 Ⓐ
Washer, plastic; 3mm dia.
3-555-068-00Ⓐ
Lever, control
3-555-105-00 Ⓐ
Felt, FR limiter
3-701-438-21 Ⓐ
Washer, plastic; 2.5mm dia (t=0.5)
3-565-523-00Ⓑ
Belt, capstan
X-3555-022-0Ⓕ
Flywheel Ass'y

(8)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
1
2
3
4
Base Ass'y, reel spindle
3-489-077-21Ⓐ
Screw, motor
3-564-019-00 Ⓐ
Holder, flywheel
3-564-017-00 Ⓐ
Rubber, cushion
Retainer, flywheel
Printed Circuit Board, servo amp
PTPWH3 x 6
PTPWH3 x 6
3-531-576-11 Ⓐ
Rivet, plastic
X-3565-513-0Ⓒ
Damper Ass'y
PSW2.6 x 6
X-3565-514-0 Ⓓ
Pulley Ass'y, motor
1-516-853-XX Ⓒ
Switch, leaf; muting (S1001)
B2 x 4
8-835-006-00 Ⓛ
Motor, DNF-1001B (M101)

SECTION 6
ELECTRICAL PARTS LIST

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

SEMICONDUCTORS

Transistors

Ref. No.	*Part No.*	*Description*
Q101, 201 Q102, 202	8-729-334-58	Ⓑ 2SC1345
Q103, 203	8-729-663-47	Ⓒ 2SC1364
Q104, 204	8-729-100-13	Ⓑ 2SC2001
Q105, 205	8-729-334-58	Ⓑ 2SC1345
Q301	8-729-141-43	2SD414 (US, Canadian model)
	8-729-316-12	Ⓓ 2SC1061 (AEP, UK, E model)
Q302	8-729-154-83	2SB548 (US, Canadian model)
	8-729-317-12	Ⓔ 2SA671 (AEP, UK, E model)
Q305	8-729-663-47	Ⓒ 2SC1364
⇒Q306	8-729-612-77	Ⓑ 2SA1027R
Q307, 308	8-729-663-47	Ⓒ 2SC1364
⇒Q309	8-729-612-77	Ⓑ 2SA1027R
Q310	8-729-663-47	Ⓒ 2SC1364
⇒Q311	8-760-413-10	Ⓑ 2SC1475
Q312, 313	8-729-663-47	Ⓒ 2SC1364
Q1001	8-729-141-43	Ⓑ 2SD414

ICs

Ref. No.	*Part No.*	*Description*
IC101, 201	8-759-745-60	Ⓑ NJM4560D
IC301	8-759-100-06	Ⓓ μPC4556C
IC302	8-759-145-57	Ⓓ μPC4557C
IC1001	8-750-690-00	Ⓓ CX069

Diodes

Ref. No.	*Part No.*	*Description*
⇒D101, 201	8-719-815-55	Ⓑ 1S1555
⇒D102, 202	8-719-422-21	Ⓑ 1T22AM
⇒D103, 203	8-719-815-55	Ⓑ 1S1555
⇒D107, 207	8-719-422-21	Ⓑ 1T22AM
⇒D108, 208	8-719-815-55	Ⓑ 1S1555
D301–304	⚠8-719-200-02	Ⓑ 10E2
⇒D305	⚠8-719-815-55	Ⓑ 1S1555
D307, 308	8-719-200-02	Ⓑ 10E2
⇒D309, 310	8-719-910-65	Ⓑ HZ6B2L
⇒D311–313	8-719-815-55	Ⓑ 1S1555
⇒D314	8-719-130-07	Ⓑ RD3.0E
D315	8-719-200-02	Ⓑ 10E2
⇒D316	8-719-910-65	Ⓑ HZ6B2L
⇒D317	8-719-815-55	Ⓑ 1S1555
D318, 319	8-719-301-03	Ⓑ SEL103R

COILS

Ref. No.	*Part No.*	*Description*
L101, 201	1-408-262-00	Ⓑ 27mH, microinductor

TRANSFORMERS

Ref. No.	*Part No.*	*Description*
T301	1-433-132-11	Ⓑ Osc
T302	⚠1-446-416-00	Power (US, Canadian model)
	⚠1-446-417-00	Ⓚ Power (AEP, UK model)
	⚠1-446-418-00	Power (E model)

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics and tantalum. p : μμF, elect : electrolytic

Ref. No.	*Part No.*	*Description*		
C101, 102 C201, 202	1-161-272-00	Ⓐ 120p		
C103, 104 C203, 204	1-161-313-00	Ⓐ 150p		
C105, 205	1-161-315-00	Ⓐ 220p		
C106, 206	1-123-353-00	Ⓑ 2.2	50V	elect
C107, 207	1-123-295-00	Ⓑ 100	6.3V	elect
C108, 109 C208, 209	1-123-306-00	Ⓑ 47	10V	elect
C110, 210	1-129-776-00	Ⓑ 0.022	100V	polyethylene
C111, 211	1-121-479-00	Ⓑ 22	16V	elect
C112, 212	1-123-316-00	Ⓑ 10	16V	elect
C113, 213	1-161-263-00	Ⓐ 22p		
C114, 214	1-129-896-00	Ⓐ 0.012	100V	polyethylene
C115, 215	1-129-701-00	Ⓐ 0.01	100V	polyethylene
C116, 216	1-123-316-00	Ⓑ 10	16V	elect
C117, 217	1-123-307-00	Ⓑ 100	10V	elect
C118, 218	1-108-597-00	Ⓑ 0.056		mylar

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*		
C119, 219	1-108-573-00	Ⓑ 0.0056		mylar
C121, 221	1-108-565-00	Ⓑ 0.0027		mylar
C122, 222	1-123-353-00	Ⓑ 2.2	50V	elect
C123, 223	1-123-354-00	Ⓑ 3.3	50V	elect
C124, 224	1-161-383-00	Ⓐ 0.0047		
C125, 225	1-161-323-00	Ⓐ 0.001		
C126, 226	1-123-353-00	Ⓑ 2.2	50V	elect
C127, 227	1-161-323-00	Ⓐ 0.001		
C128, 228	1-123-230-00	Ⓑ 2.2	50V	elect (nonpolarized)
C129, 130 C229, 230	1-123-307-00	Ⓑ 100	10V	elect
C131, 231	1-123-351-00	Ⓑ 0.47	50V	elect
C132, 232	1-129-776-00	Ⓑ 0.022	100V	polyethylene
C133, 233	1-108-559-00	Ⓑ 0.0015		mylar
C134, 234	1-108-579-00	Ⓑ 0.01		mylar
C135, 235	1-108-585-00	Ⓑ 0.018		mylar
C136, 236	1-161-383-00	Ⓐ 0.0047		
C137, 237	1-161-272-00	Ⓐ 120p		
C138, 238	1-161-258-00	Ⓐ 8.2p		
C139, 239	1-108-597-00	Ⓑ 0.056		mylar
C140, 240	1-161-272-00	Ⓐ 120p		
C141, 241	1-161-315-00	Ⓐ 220p		
C142, 242	1-123-228-00	Ⓑ 1	50V	elect (nonpolarized)
C143, 243	1-161-271-00	Ⓐ 100p		
C144, 244	1-107-167-00	Ⓑ 75p	500V	mica
C145, 245	1-107-037-00	Ⓑ 47p	500V	silvered mica
C146, 246	1-123-306-00	Ⓑ 47	10V	elect
C148, 248	1-123-307-00	Ⓑ 100	10V	elect
C301, 302	⚠1-121-733-00	Ⓐ 470	25V	elect
C303, 304	1-121-245-00	Ⓐ 1000	16V	elect
C305, 306	1-123-321-00	Ⓑ 220	16V	elect
C307–310	1-123-308-00	Ⓑ 220	10V	elect
C311	1-123-316-00	Ⓑ 10	16V	elect
C312	1-123-306-00	Ⓑ 47	10V	elect
C313	1-123-328-00	Ⓑ 4.7	25V	elect
C314	1-123-322-00	Ⓑ 330	16V	elect
C315	1-123-354-00	Ⓑ 3.3	50V	elect
C316	1-131-217-00	Ⓑ 2.2	35V	tantalum
C317	1-129-701-00	Ⓑ 0.01	100V	polyethylene
C318	1-130-189-00	Ⓑ 0.018	100V	polyethylene
C319	1-129-710-00	Ⓑ 0.0047	630V	polyethylene
C320, 321	1-121-414-00	Ⓑ 100	10V	elect
C324	1-161-323-00	Ⓐ 0.001		
C326	1-123-316-00	Ⓑ 10	16V	elect
C1001	1-130-134-00	Ⓑ 0.082	100V	plastic
C1002	1-123-316-00	Ⓑ 10	16V	elect
C1003	1-108-583-00	Ⓑ 0.015		mylar
C1004	1-123-352-00	Ⓑ 1	50V	elect
C1006 C1008	1-123-332-00	Ⓑ 47	25V	elect
C1009	1-108-244-00	Ⓐ 0.033		mylar
CT101,201	1-141-225-00	Ⓒ Trimmer		

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 35 for their part numbers.

R103, 203	1-244-897-00	Ⓐ 10k	½W	carbon
R104, 204	1-244-905-00	Ⓐ 22k	½W	carbon
R105, 205	1-244-840-00	Ⓐ 43	½W	carbon
R110, 210	1-244-873-00	Ⓐ 1k	½W	carbon
R111, 211	1-244-932-00	Ⓐ 300k	½W	carbon
R112, 113 R212, 213	1-244-873-00	Ⓐ 1k	½W	carbon
R114, 214	1-244-939-00	Ⓐ 560k	½W	carbon
R115, 215	1-244-918-00	Ⓐ 75k	½W	carbon
R116, 216	1-244-873-00	Ⓐ 1k	½W	carbon
R117, 217	1-244-855-00	Ⓐ 180	½W	carbon
R118, 218	1-244-937-00	Ⓐ 470k	½W	carbon
R119, 219	1-244-853-00	Ⓐ 150	½W	carbon
R123, 223	1-244-865-00	Ⓐ 470	½W	carbon
R124, 224	1-244-881-00	Ⓐ 2.2k	½W	carbon
R126, 226	1-244-857-00	Ⓐ 220	½W	carbon
R140, 240	1-244-881-00	Ⓐ 2.2k	½W	carbon
R141, 241	1-244-885-00	Ⓐ 3.3k	½W	carbon
R143, 243	1-244-913-00	Ⓐ 47k	½W	carbon

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*			
R144, 244	1-244-896-00	Ⓐ 9.1k	½W	carbon	
R156, 256	1-244-873-00	Ⓐ 1k	½W	carbon	
R170, 270	1-244-899-00	Ⓐ 12k	½W	carbon	
R307, 308	1-244-877-00	Ⓐ 1.5k	½W	carbon	
R309, 310	1-244-884-00	Ⓐ 3k	½W	carbon	
R321	1-244-852-00	Ⓐ 130	½W	carbon	
R322	⚠1-206-642-00	Ⓑ 120	2W	metal oxide (nonflammable)	
R334	1-244-849-00	Ⓐ 100	½W	carbon	
R336	⚠1-206-644-00	Ⓑ 150	2W	metal oxide (nonflammable)	
R1001	1-214-765-00	Ⓐ 33k	¼W	metal oxide	
R1008	⚠1-217-523-00	Ⓑ 10	¼W	fusible	
RV101, 201	1-224-550-21	Ⓑ 220-B, adjustable; playback level			
RV102, 202	1-226-591-00	Ⓔ 20k/20k-A, variable; REC LEVEL			
RV103, 203	1-224-644-XX	Ⓑ 4.7k-B, adjustable; record level			
RV104, 204	1-226-234-00	Ⓑ 2k-B, adjustable; meter			
RV1001	1-226-431-00	Ⓑ 10k-B, adjustable; tape speed			

SWITCHES

Ref. No.	*Part No.*	*Description*
S1	1-552-521-00	Ⓒ Slide, record/playback
S2	1-552-723-00	Ⓒ Lever-slide, DOLBY NR
S3	1-552-393-00	Ⓒ Lever-slide, BIAS
S4	1-552-394-00	Ⓒ Lever-slide, EQ
S5	1-552-724-00	Ⓓ Lever-slide, INPUT SELECT
S7	⚠1-552-530-00	Pushbutton, POWER (US, Canadian model)
	⚠1-552-903-00	Ⓓ Pushbutton, POWER (AEP, UK model)
	⚠1-552-407-11	Pushbutton, POWER (E model)
S1001,1002	1-516-853-XX	Ⓒ Leaf, muting, timing

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

JACKS

Ref. No.	*Part No.*	*Description*
CNJ101, 201	1-507-525-00	Ⓓ MIC
CNJ102,103 CNJ202,203	1-507-531-00	LINE IN, LINE OUT (US, Canadian model)
CNJ102, 103 CNJ202, 203 CNJ301	1-536-501-21	Ⓓ LINE IN, LINE OUT, REC/PB (AEP, UK, E model)
CNJ302	1-507-553-00	Ⓒ HEADPHONES

MISCELLANEOUS

Ref. No.	*Part No.*	*Description*
LPF101,201	1-231-372-00	Ⓓ Filter, low-pass
HE	8-825-506-10	Ⓔ Head, erase; EF135-36F
HRP	8-825-710-00	Ⓛ Head, record/playback; PF180-3602A
CP301	⚠1-130-267-00	Ⓒ Capacitor, 0.022μF 250V; film (AEP, UK model)
	⚠1-231-326-11	Encapsulated Component (US, Canadian model)
	⚠1-231-057-31	Encapsulated Component (E model)
ME101, 201	1-520-411-00	Ⓚ Meter, VU
PL101, 201	1-518-351-00	Ⓒ Lamp, VU meter
PL1001	1-518-306-00	Ⓑ Lamp, cassette
M101	8-835-006-00	Ⓛ Motor, DNF-1001B
	⚠1-526-576-31	Voltage Selector (E model)
	⚠1-534-817-XX	Ⓓ Cord, power (AEP model)
	⚠1-534-777-00	Ⓓ Cord, power (UK model)
	⚠1-534-986-XX	Cord, power (US, Canadian model)
	⚠1-551-473-31	Cord, power; parallel-blade plug (E model)
	⚠1-551-530-00	Cord, power; euro-plug (E model)

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Circled letters (Ⓐ to Ⓩ) are applicable
to European models only.

ACCESSORIES AND PACKING MATERIALS

Part No.		*Description*
X-3701-105-0	Ⓐ	Tip Ass'y, head cleaning
1-551-734-11	Ⓓ	Cord, connection; RK-74A
3-429-126-00	Ⓑ	Bag, plastic (Canadian model)
3-561-142-00		Cushion, upper-front (Canadian model)
3-561-143-00		Cushion, upper-rear (Canadian model)
3-561-144-00		Cushion, bottom-right (Canadian model)
3-561-145-00		Cushion, bottom-left (Canadian model)
3-566-148-00	Ⓑ	Cushion, upper-front (US, AEP, UK, E model)
3-566-149-00	Ⓑ	Cushion, upper-rear (US, AEP, UK, E model)
3-566-150-00	Ⓑ	Cushion, bottom-right (US, AEP, UK, E model)
3-566-151-00	Ⓑ	Cushion, bottom-left (US, AEP, UK, E model)
3-567-305-00	Ⓓ	Carton (US, AEP, UK, E model)
3-567-306-00		Carton (Canadian model)
3-701-630-00	Ⓐ	Bag, plastic
3-770-882-11	Ⓔ	Manual, instruction (AEP, UK, E model)
3-770-882-21		Manual, instruction (US model)
3-770-882-21 3-794-491-31		Manual, instruction (Canadian model)
3-793-828-11	Ⓐ	Caution Card, cassette
3-794-233-21		Separate Sheet, consumer products (US model)
4-818-924-00	Ⓑ	Bag, plastic (US, AEP, UK, E model)

1/4 WATT CARBON RESISTORS Ⓐ

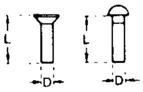
Note: Circled letter Ⓐ is applicable to European models only.

Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:

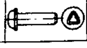
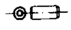
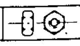
– P 3 x 10
L: Length in mm
D: Diameter in mm
Type of head
Indicated slotted-head only.
Unless otherwise indicated, it means cross-recessed head (Phillips type).



Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Nut, Washer, Retaining ring:

N 3
Diameter of usable screw or shaft
Reference designation

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	